

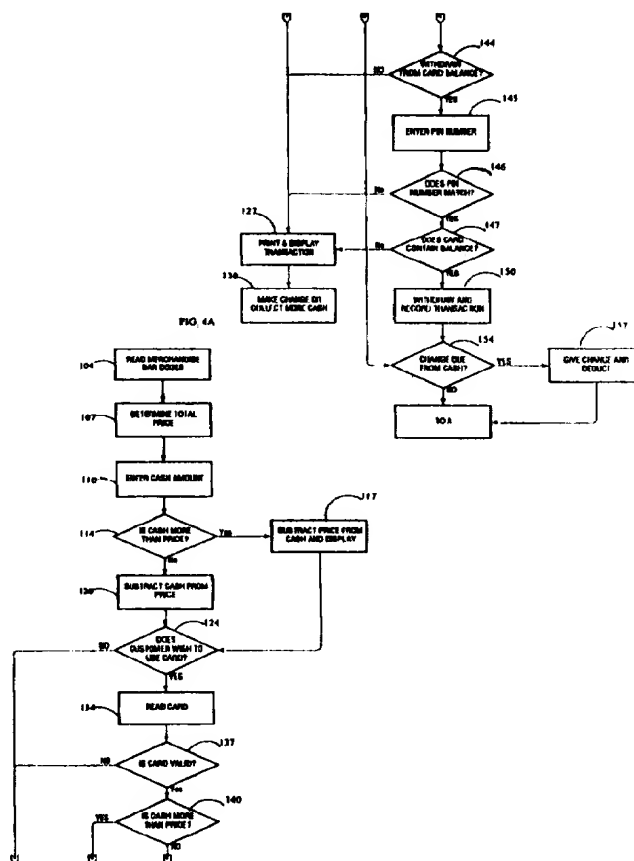
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**(54) Title:** SYSTEM AND ITS METHOD OF USE FOR ACCEPTING FINANCIAL OVERPAYMENTS

**(57) Abstract**

A system (see Figure 1 for structural system, Figures 4 and 5 for system of business operation) and its use for consumer payors to save and donate whenever they use cash at a point of sale terminal (Figure 1, RTI through RTN), write a check, use an ATM machine, or use a credit or debit card. The POS system is a network composed of subscriber/payors, neutral merchant/collectors, a central clearinghouse, and provider accounts. The rounder system is a network composed of subscriber/payors, payees, account managers, and provider services. The systems together provide subscriber/payors with a seamless way to save/donate every time they spend.



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## TITLE

### SYSTEM AND ITS METHOD OF USE FOR ACCEPTING FINANCIAL OVERPAYMENTS

#### FIELD OF THE INVENTION

5                   This invention relates generally to methods and systems for distributing funds. In one aspect it relates to conveniently and frequently donating to qualified charities in small amounts, and particularly to an organized collection and recording system. In another aspect it relates to operating an open consumer purchasing system by updating the gift certificate or  
10                   pre-purchasing concept. In yet another aspect it involves creating excess funds from traditional consumer spending transactions using cash, checks, credit or debit card. The excess funds created are then put aside in special accounts for future spending.

#### BACKGROUND OF THE INVENTION

15                   Present methods and systems of creating excess funds from spending transactions have a number of limitations. For example, now consumers can create excess funds for future spending by making excess payments and having the excess amount assigned for future spending under very limited circumstances. Effectively consumers can tender an excess payment to a payee that they have  
20                   an existing account with (e.g. utility and gas companies) and allow the excess funds to stay with the payee for the payment of future services or direct the payee to distribute the excess funds onto an outside provider, such as a charity. Under this "closed" process the payee provides an active role as to account management and selection/distribution of the excess funds for internal purposes,  
25                   as well as to outside providers. Within this current arrangement the consumer has very limited opportunities to create excessive funds, as well as to determine

the application of said funds, since the existing state of the art is a "closed" system essentially operated by payees with whom they have existing account relationship. Also, consumers can now only create excess funds when the face amount paid to a payee is in excess of the purchase price. In addition to the  
5 requirement for an excess payment, there is also the need for the payee to process the transaction by subtracting the amount of the purchase price from the amount tendered. Therefore, the payee is now actively involved in managing and/or distributing the consumers' excess funds.

Moreover consumers can now only pre-pay for future purchasing under  
10 very limited circumstances. Effectively consumers can tender a pre-payments to a merchant payee that they open an account with or have an existing account with and allow the pre-dedicated funds to stay with the payee for the payment of future services. Under this "closed" process the payee provides an active role as to account management and selection/distribution of the pre-paid funds for  
15 internal purposes only. Within this current arrangement the consumer has very limited opportunities to pre-pay, as well as to choose a different application of said funds, since the existing state of the art is a "closed" system essentially operated by merchant payees with whom they have existing account relationship.

Moreover, in current shopping situations a clerk inputs the price  
20 of all items in a cash register and the latter totals the price. The consumer offers either the exact amount of cash or a sum exceeding the price, and the clerk enters that amount. The cash register then subtracts the price from the cash.

The excess cash offers the customer an opportunity to save small  
25 amounts of money painlessly. It also affords the consumer to donate small amounts of money to charity. In fact, establishments sometimes display advertisements with receptacles for deposit of small change to be donated to

charities. However these systems do not give the consumer an opportunity to save and donate his or her money consistently with respect to a favorite charity and fail to keep adequate records if the amounts grow enough to make it worthwhile to consider the tax implications of the contributions.

5

## SUMMARY OF THE INVENTION

An embodiment of the invention involves accumulating credits in payor surplus accounts from financial transactions between a payor and a payee, by entering a demanded amount due the payee, entering an additional amount offered by the payor, and depositing the additional amount in the surplus  
10 account. According to another aspect of the invention, the step of depositing the additional amount includes the payee crediting the additional amount to the surplus account in the hands of a central clearing entity, so that the payee remains neutral to the additional amounts. According to yet another aspect of the invention, said step of entering an additional amount includes calculating the  
15 additional amount from predetermined data associated with the surplus account.

Another embodiment involves issuing, decrementing, and writing balances on the exchange of open purchasing credits on an intelligent card processed by neutral merchant payees from financial transactions between a consumer and a merchant. Another aspect entails the neutral merchant payees determining the  
20 net value between the issuing and decrementing of purchasing credits and transferring said net value to the network's central clearinghouse. Still another the central clearing house manages a singular pool of purchasing credits and accepts and distributes funds according to the reporting of each respective neutral merchant payee's terminal.

25

## BRIEF DESCRIPTION OF THE DRAWINGS

Fig. 1 is a block diagram of a system embodying features of the

invention.

Figs. 2 and 3 are views of credit cards forming part of the embodiment in Fig. 1.

5 Figs. 4A & 4B (generally referred to as Fig. 4) and Figs. 5A, 5B, & 5C (Fig. 5) are flow diagrams of the steps that take place in Fig. 1.

Figs. 6A, 6B, 6C, and 6D (generally referred to as Fig. 6) are flow diagrams of steps that take place in a computer in Fig. 1.

Fig. 7.1 is a block diagram of the system embodying features of the invention.

10 Fig. 7.2 is a block diagram of system hardware in Fig. 7.1.

Fig. 7.3 is a view of an intelligent card forming part of the embodiment in Fig. 7.1.

Fig. 7.4 are flow diagrams of the steps that take place in a computer issuing credits in Fig. 1.

15 Fig. 7.5 is a flow diagram of steps that take place in a computer decrementing credits in Fig. 7.1.

Fig. 7.6 is a flow diagram of steps that take place in a computer determining net value and transferring said value to clearinghouse in Fig. 7.1.

20 Fig. 7.7 is a flow diagram of steps that take place in a computer from the central clearinghouse to each neutral payee reporting account settlement in Fig. 7.1.

Fig. 7.8 is a flow diagram of steps that take place in the IC computer and a PC that will provide a print out of the activity of the subscriber payor's records in Fig. 7.3.

5 Fig. 8.1A is a block diagram of the POS system embodying features of the invention.

Fig. 8.1B&C are block diagrams of the Clearinghouse Managed System embodying features of the invention.

Fig. 8.1D&E are block diagrams of the Provider Managed System embodying features of the invention.

10 Fig. 8.1F is a block diagram of the Data and Funds Transfer used in both P OS systems embodying features of the invention.

Fig. 8.2 is a block diagram of POS system hardware in Fig. 8.1.

Figs. 8.3 are views of transaction cards forming part of the embodiment in Fig. 8.1.

15 Figs. 8.4A&B&C&D (Fig. 8.4) are flow diagrams of steps in Fig. 8.1B.

Fig. 8.5A&B (generally referred to as Fig. 8.5) are flow diagrams of steps that take place in a computer in Fig. 8.1C.

Fig. 8.6A&B&C (generally Fig. 8.6) are flow diagrams of enrollment steps that take place in a computer in Fig. 8.1B&C.

20 Fig. 8.7 is a block diagram of the rounder system embodying features of the invention.

Fig. 8.8 is a flow chart of the steps that take place to enroll subscriber s in the rounder system shown in Fig. 8.7.

Fig. 8.9A-E is a flow chart of the data processing methodology used in the terminals and central computers operated by banks to process rounder transactions in Fig. 8.7A&B.

Fig. 8.10A-E is a flow chart of the data processing methodology used in the terminals and central computers operated by banks and credit institutions to process rounder transactions in Fig. 8.7A&B.

#### DETAILED DESCRIPTION OF PREFERRED EMBODIMENTS

In Fig. 1, a system embodying the invention includes a central computer CC containing a central processor CPU and a large data storage DS. A communications system CS that may include telephone lines, satellites, or cables connects the central computer CC to a number of cash registers CR<sub>x</sub> (where  $x = 1, \dots M, \dots N$ ) in retail outlets, such as shops, supermarkets, gasoline stations, department stores, etc. at locations remote from the central computer. Throughout this specification, the term  $x$ , when appended to the end of a reference character, is equal to  $1, \dots M, \dots N$ .

The cash registers CR<sub>x</sub> connect to respective keypads KP<sub>x</sub> and card readers CD<sub>x</sub>. Each cash register CR, keypad KP<sub>x</sub>, and card reader CD<sub>x</sub> connected to each other represents a remote terminal RT<sub>x</sub>. For each cash register CR<sub>x</sub> there is a sponsor terminal ST<sub>x</sub> that connects to the register and the central computer CC. Money is collected at the cash registers CR<sub>x</sub> for crediting to the consumers' ledgers in the accounts of various charities and other institutions such as banks, debit card issuers, credit card issuers, etc. The data storage DS contains individual storages for charity accounts CA and other accounts OA, such as for banks etc., all with ledgers for individual consumers.



The communications system CS also connects the central computer CC to charity computers CH<sub>y</sub> and other computer OC<sub>z</sub>, where  $y = 1...k$ , and  $z = 1...j$  such as bank computers BK<sub>x</sub> and various charities such as debit account holders, credit card issuers, etc. These charities and other institutions are the ultimate receivers of the donations and deposits moneys collected at the cash registers CR<sub>x</sub>. The computer CC also includes a default account DA with consumer ledgers to hold moneys not otherwise allocated.

The cash register CR<sub>x</sub> includes a change display for exhibiting cash transactions, credit cards, or check purchases. The display automatically operates to show numbers in question. A card reader CD<sub>x</sub> with a keypad KP<sub>x</sub> allows the donor or clerk to enter the donation directly. The keypad KP<sub>x</sub> permits the donor to change the allocation for this transaction alone or permanently. The keypad KP<sub>x</sub> also allows the donor to reduce the amount donated so that he can receive cash change. The terminal RT<sub>x</sub> reports the donation directly to the central computer CC via the communication system CS. The central computer CC prints out periodic reports for interested parties on a need-to-know basis.

According to the invention, a consumer in a shop, supermarket, gasoline station, department store, etc. selects the desired merchandise and bring them to a clerk. The clerk inputs the price of all items in a cash register CR<sub>x</sub> by way of a register keyboard or a bar code reader and the register totals the price. The consumer then offers the clerk either the exact amount of cash or a sum exceeding the price, and the clerk enters that cash and the amount into the cash register. The cash register CR<sub>x</sub> then subtracts the price from the cash.

If the consumer gives the clerk the exact price nothing more need happen. However, if the money offered the clerk exceeds the price, the consumer may, if he or she wishes, choose to receive the change or to donate or save all or a portion of the change. To do the latter, he or she enters a donor card number into the keypad KP<sub>x</sub> or enters the donor card itself into the card

reader CDx. The latter reads the number from a bar code or magnetic stripe on the card. The consumer can also enter into the keypad the how much of the total change he or she is to receive should be credited to various predetermined accounts in the central computer CC. The register CRx reads the numbers  
5 entered into the keyboard or the number entered by way of the card reader CDx.

A donor card DC1 according to the invention appears in Fig. 2 with a magnetic stripe MS carrying the donor's number. A card DC2 in Fig. 3 includes the number in the form of a bar code BA.

After receiving the data, the register CRx accesses the central  
10 computer CC. The latter allocates the change, or portion of the change selected by the consumer, among various charity accounts CA and other accounts OA in the computer CC according to the preprogrammed commands which the consumer has previously entered into the central computer. The consumer receives a printout of all donor transactions as well as the just-completed  
15 commercial transaction.

If desired, the consumer can choose to donate only a fraction of the difference between the cash presented and the price. The consumer then enters the amount to be donated and receives the appropriate cash change.

According to an embodiment of the invention, with every  
20 transaction, the computer CC electronically transfers all amounts allocated to each charity CH, immediately or as soon as the computer can access the charity computer. In this way the donor is always assured that the contribution takes effect immediately. Deposits in the other accounts OA may be sent immediately or held with a sufficient amount is accumulated to be acceptable by other  
25 institutions.

5       An example of the operation of a cash register CRx, keypad KPx, and card reader CDx appears in the flow chart of Figs. 4 and 5. Here, it is assumed that the customer is purchasing merchandise that may carry bar codes. However, the invention is also applicable for purchase of services, rentals, or other valuables.

10       In step 104 of Fig. 4, the clerk enters the prices of the various pieces of merchandise, either by way of a keyboard (not shown) or a bar code reader BCRx, into the cash register CRx. In step 107, the cash register determines the total price. The customer then gives the clerk the cash to cover or exceed the total price. While this example refers to cash, the invention is also applicable to payment by credit card. That is, the customer may wish to have an amount charged to the credit card in excess of the price in order to make donations or distributions according to the invention. For purposes of this description the word cash is used also to embrace credit card payments.

15       In step 110, the clerk then enters the amount of the cash payment into the cash register. Under normal circumstances, the cash payment will equal or exceed the total price. However, the invention allows the donor to withdraw moneys from a credit balance in one of the accounts recorded in the central computer CC. While unlikely, this may also occur with a credit card sale. Thus,  
20       in some situations, the amount of cash may fall short of the total price. In step 114 the cash register determines in the amount of cash exceeds the total price.

25       If the answer is yes, the cash exceeds the sale price, the register CRx determines the amount of change by subtracting the price from the cash in step 117. If the answer is no, the cash does not exceed the sale price the register determines the amount due in step 120. In step 124, the cash register CRx asks whether the customer has and wishes to use a donor card. The clerk or customer may respond by keyboard, or directly by entering the donor card into the card reader CDx.

10

If the customer does not have or does not wish to use a donor card in response to step 124, the cash register CRx prints the transaction in step 127 and ,in step 130, prompts the clerk to make change or collect more cash. If the customer does not offer any needed cash the clerk must abort or otherwise correct the transaction.

If the customer wishes to use a donor card, the clerk may enters this information into the register's keyboard, or the customer may enter the card into the card reader CDx. In step 134, the register communicates with the central computer, and the two read the donor card. In step 137, the computer CC determines whether the card is valid. If not, the register CRx returns to step 127.

If the card is valid, the cash register CRx again asks if the cash offered exceeds the total price in step 140. If not, in step 144, the computer CC and the cash register CRx prompts the cash register CRx display DI to ask if the cash register should debit the deficient amount from one of the donor cardholder's accounts. If not, the process returns to step 127.

If the answer to step 144 is yes, the computer CC, in step 145, asks the customer to enter his or her personal identification (PIN) number. In step 146, the computer CC determines if the PIN number matches the card number. If not the computer returns to step 127. If yes, it determines if the card contains a sufficient balance to cover the amount due. If not, the process again returns to step 127. If yes, in step 150, the computer withdraws the money from the donor account and credits it to the account of the establishment or the sponsor SPx as pre-programmed. In step 150, the cash register CRx also prints out the transaction.

If the answer to step 140, namely to the question whether there is more cash than the price, is yes, step 154 causes the cash register CRx to display

a message asking whether the customer wishes to retain some of the change due. If yes, the cash register CRx and the computer CC prompt the customer to enter in the keypad KPx how much he or she wish to retain or donate. In step 154, the cash register CRx indicates to the clerk to give the appropriate net change and shows the net donor amount.

The process now goes to A in Fig. 5. If the answer to step 154 is no, the process also continues at point A in Fig. 5.

At A, step 204, in Fig. 5, the computer CC searches the records to find the pre-programmed payout amounts for the particular donor card. The payout amounts are entered as shown in Fig. 6. In step 207 of Fig. 5, the computer CC starts apportioning the payout amounts in the pre-programmed proportions or priorities and amounts. In steps 210 to 227 it enters the selected amounts in the accounts of various charities, banks, debit card, and vouchers. Normally there should be no remaining amount. However such an amount may exist. Thus in step 230 the computer CC asks if there remains any outstanding amount. If yes, step 234 enters it into a default account selected by the donor at an earlier time. In step 237, the computer CC updates the accounts both in its own data banks and in the computers CHy and OTz. The computers CHy, and OTz confirm the transactions.

In a preferred embodiment, the computer CC transfers and credits charity donations to a charity account or to the charities CHy with each transaction. Hence the donation takes effect with each transaction.

If the answer to step 230 is no, there are outstanding amounts, the process goes to step 237 directly. In step 240, the cash register CRx prints out the amounts donated, entered into various accounts, the prices, the change, etc.

The computer CC and the cash register CRx then prompt the

customer to ask if he or she wishes to change the programming of the various donations in the computer CC. If yes, the card reader CDx displays the apportionment and the amounts, including balances in step 247, the consumer then enters the desired changes in step 250, and the computer CC makes the changes in step 254. This ends the transaction in step 257. If the answer to step 244 is no, the process goes directly to step 257.

In one embodiment of the invention, the consumer carries out steps 244 to 254 at a separate time in a separate card reader CDx and keypad KPx. This prevents the consumer from using these machines while the clerk serves another customer. In fact, the establishment may furnish a separate terminal RTx just for this purpose.

Fig. 6 is a flow chart which illustrates the steps which the computer CC takes, through the keypad KPx, to open or revise donor account or credit account data in a new or existing card account. A display DSx on the keypad KPx or the cash register CRx allows the computer CC to ask the consumer to perform certain acts. After the party has accessed the computer CC the computer, in step 304, asks whether the consumer has a donor card. If not, in step 307, the computer CC asks the consumer to enter his or her name or address. In step 308, the computer CC determines if all information has been entered. If not, it returns to step 307 to ask again for the desired information. If yes, the computer CC proceeds to step 310 to ask the consumer to choose a personal identification (PIN) number. In step 314, the computer determines if the PIN number is acceptable. If not it returns to step 310 for another number. If yes, the computer advances to step 317 to assign a new card number.

If the answer in step 304 yes, that the consumer has a card, the computer CC proceeds to step 320 to have the customer enter the card. In step 324, it asks the consumer to enter his or her preselected PIN number. In step 327 it determines whether the entered PIN number matches the preselected PIN

number. If not, it returns to step 324 for a corrected number. The computer allows this procedure between steps 324 and 327 recur only three times, thereafter it aborts the program.

5        If the PIN number is correct and thereby qualified, the computer CC, in step 330 lists all existing donees and amounts donated during any specific time period, such as the calendar year. The consumer may request any time period. In step 334, it also lists all credit accounts with balances. In step 337 it asks the consumer to list all donee accounts to be eliminated, if any. In step 340 it asks the consumer to list all credit accounts to be eliminated if any. The  
10       computer then proceeds to step 344. Step 344 also receives a prompt from stem 317 if the card number is new.

15       In step 344, the computer asks the consumer to enter any new donee account or credit account. In step 347, it determines if the donee, in the form of a charity, or credit institution, is in the list of charities or institutions that have been accepted by the system. If the answer is no, the computer, in step 348 asks if the consumer wishes to have a temporary account set up for that donee or credit institution pending investigation. If yes to step 348, the computer, in step 349, sets up a temporary account, and lists it as qualified pending investigation. If the answer to 348 is no, the computer CC goes back to step 347.

20       Once the computer CC has qualified a donee or credit institution, it goes to step 350 to ask if this is the last donee account or credit account the consumer wishes to add. If not the process goes back to step 344. If yes, the computer cancels all prior allocations in step 354 and, in step 357, sequentially lists all remaining and new donee account and credit accounts showing the old  
25       allocations where applicable. In step 360, it asks the consumer to enter a new percentage allocation for each account. As a check, in step 364, the computer

asks if the total percentages exceed 100%. If yes, it returns to step 360 for a new entry. If not, it proceeds to step 367 to ask if this is the last account. If not it goes to step 370 to ask the consumer to go to the next account and returns to step 360. If yes, the computer CC goes to step 374 where it asks if the total  
5 percentage is 100%. If not, the computer CC places the remaining percentage in a consumer's personal default account asks the consumer to select an account and change to allocations in step 377. The computer, in step 380, ends the process and has the keypad print out the results.

According to an embodiment of the invention, the computer CC  
10 demands a PIN number each time the card is used. In another embodiment, the computer may permit others to donate in behalf of the card owner, such as a parent contributing for a child. In that case step 124 permits entry only of the card number without the card.

In some instances, when the amount of cash is less than the price,  
15 the sales establishment or customer may want to abort the sale. Then, at step 117, the cash register CRx asks whether to abort. If yes, the process must start again at step 104.

The invention contrasts with present day situations in which a clerk  
inputs the price of all items in the cash register and the latter totals the price.  
20 The consumer offers either the exact amount of cash or a sum exceeding the price, and the clerk enters that amount. The cash register then subtracts the price from the cash.

According to the invention, the clerk also inputs the price of all  
items in the cash register and the latter totals the price. The consumer still  
25 offers either the exact amount of cash or a sum exceeding the price, and the clerk enters that amount. The cash register then subtracts the price from the cash. However, then the consumer enters the donor card number with its bar



code or magnetic stripe. The register then contacts the remote processing unit and the latter allocates the change according to the preprogrammed commands which the consumer has previously entered. The consumer receives a printout of all donor transactions as well as the just-completed commercial transaction.

5                   If desired, the consumer can choose to donate only a fraction of the difference between the cash presented and the price. The consumer then enters the amount to be donated and receives the appropriate cash change.

                  Prior to listing in the central processor, the invention qualifies each  
10                   charity for their tax exempt status, operations, management activities, litigation,  
                  and other pertinent legal and financial information. The charity must certify to  
                  the facts. If the reported information meets the requirement, the charity  
                  qualifies. The computer initiates a checking and updating of the qualification  
                  facts on a regular basis. The central processor the keeps the qualified charities  
                  on an ongoing basis.

15                   The register furnishes the donor a printed receipt of each donor  
                  transaction for tax purposes and authentication that the charity will receive the  
                  money. The receipt shows the serial number, amount donated, date, total  
                  donated by the donor, and the current financial results of any specific campaigns  
                  or project received by the charity overall.

20                   One embodiment of the invention furnishes other rewards to the  
                  donor. For example, the terminal may play a tune, such as "It's a Small World"  
                  in response to donation to the United Nations children's fund. Alternatively the  
                  donor may receive a message that the last ten cent donation has closed another  
                  \$100 units in donations to this charity and provide a special discount coupon.  
25                   As another example the donor may receive a message that the donor's  
                  contribution is being matched by a sponsor with a bonus donation.

The invention supervises, implement, and coordinates charitable contributions to benefit all participants in the giving cycle, including the donors, sponsors, charitable organizations, Internal Revenue Service, and end recipients. It allows remote receiving and sending stations, connected to a central processing station, to accept any denomination of giving from a single penny to unlimited dollars. Regardless of the size of the donation, it effectively warrants that all participants that the designated charity has received the donated funds. It thus supports the authenticity of each donation. It can offer unlimited access to the donors concerning their contributions to charities and savings accounts, the intended use of the funds, and feedback concerning the total received by the funds.

The invention effectively leverages the power of mere pennies into substantial dollars that in turn become available to charities on a short term collection basis. It rewards and encourages philanthropic giving and savings to all individuals on an every day basis.

The present application relates to improved methods and systems to operate an open consumer purchasing system using a network composed of consumer payors using an intelligent card, neutral merchants receiving and issuing open purchasing credits, neutral merchants providing selective clearinghouse functions and transferring net open purchasing credits, to a central clearinghouse that only manages a singular pool of purchasing credits and does not sell purchasing credits to consumers nor manage consumers' accounts. By consumers being able to buy open purchasing credits in advance from a variety of participating neutral merchants, consumers will then have convenience in setting aside money and the flexibility of using the credits in a variety of merchant circumstances.

In Fig. 7.1, an "open" network embodies a three level purchasing system

comprised of Level 1 CP (consumer/payors), Level 2 MP (multiple neutral merchant payees) who will in 2A initialize intelligent cards and in 2B sell purchasing credits in the form of electronic purchasing credits on the intelligent cards (IC). The MP's point of sale terminals equipped with EEPROM programming abilities will write the purchasing credits on the IC. In Level 2C the MP decrements electronic purchasing credits in exchange for merchandise or services sold to the CP. The MP's terminal will then use the EEPROM software capabilities in their POS terminals to update the IC balance. In Level 2C the MP's POS terminal will balance the net difference in electronic purchasing credits and debits stored in memory over the day's transactions and report only the net value to Level 3, the central clearinghouse (CC1). The CC1 manages a singular pool of purchasing credits and accepts and distributes funds to MP's according to the reporting of each respective neutral MP's terminal net value.

In Fig. 7.2, a system embodying the invention includes a clearinghouse central computer (CC1) containing a central processor CPU and a large data storage DS. A communications system CS that may include telephone lines, satellites, or cables connects the CC1 to a number of ICR<sub>x</sub> readers in POS terminals, personal computers, electronic cash registers (ECR<sub>x</sub>) (where  $x = 1, \dots M, \dots N$ ) referred to as RT<sub>x</sub> remote terminals (RT) found in retail shops, supermarkets, gasoline stations, department stores, vending machines, highway toll booths, health clinics, pay telephones, etc. at locations remote from the central computer. Throughout this specification, the term  $x$ , when appended to the end of a reference character, is equal to  $1, \dots M, \dots N$ .

The RT<sub>x</sub> are connected to respective keypads KP<sub>x</sub> and along with other components together they constitute a remote terminal that is connected to the CC1.

The RT<sub>x</sub> in the embodiment of a ECR<sub>x</sub> includes a change display for

exhibiting cash transactions, credit cards, or check purchases. The display automatically operates to show numbers in question. A card reader ICRx with a keypad KPx allows the CP or clerk to enter the amount of funds deposited or decremented directly. The keypad KPx permits the CP to change the allocation  
5 for this transaction alone or permanently. The keypad KPx also allows the CP to reduce the amount deposited or decremented so that the CP can receive cash change. The RTx or ECRx reports the total net value of the deposits and decrements directly to the CC1 via the communication system CS. The CC1 prints out periodic reports for interested parties on a need-to-know basis.

10 According to the invention, a consumer in a shop, supermarket, gasoline station, department store, etc. purchases a generic IC and makes a deposit with the neutral merchant. The MP's ECR uses the ICR to write on to the IC the amount of purchasing credits deposited into the network. The actual funds received by the MP will be later forwarded to the CC1 after the net value of the  
15 day's network receipts are determined by the RTx.

After the consumer has put electronic purchasing credits on their IC they may then pay for their purchases using the IC in a decrementing fashion. This is accomplished by the CP inserting the IC into the ICR connected to the ECR that will take off electronic purchasing credits as payment and re-write the IC  
20 reflecting the new balance.

The IC card according to the invention appears in Fig. 7.3. In another use of the invention the IC technology may be incorporated in the design of a car windshield or car window to allow the invention to be accessed under a variety of circumstances, i.e., drive through window, toll booth, etc.

25 In step 7100 of Fig. 7.4, the terminal is activated and scrolling.

In step 7102 IC is inserted into the terminal and the terminal asks is this

a valid card?

If the answer is no, in step 7104 the card is initialized and goes to step 7106.

5 If the answer is yes, in step 7106 the clerk enters the amount of funds that will be deposited onto the IC and the computer chip in the IC updates the card balance with purchasing credits.

In step 7108 the remote terminal asks the IC if there are any processing fees due?

10 If the answer is no, in step 7112 the IC's balance remains as programmed and the terminal records in memory the deposited amount and computes balance.

If the answer is yes, in step 7110 the RT decrements any processing fees from the balance on the IC and goes to step 7112.

In step 7114 the depositing transaction is printed out and displayed.

15 In step 7116 the amount of funds accepted into the system and the fees deducted are recorded in the terminal's memory and the net balance of purchasing credits issued and fees paid are updated.

In step 7118 the process ends and the computer goes back to step 710C.

In step 7200 of Fig. 7.5, the terminal is activated and scrolling.

20 In step 7202 the clerk enters the total purchase price due the payee.

20

In step 7204 the payor provides the IC to be decremented for payment.

In step 7206 the computer asks if there is sufficient electronic purchasing credits to cover the charges?

If no to step 7206, the terminal returns to step 7200.

5           If yes, in step 7208 the RT decrements the exact amount and the IC reflects the new balance on the IC.

In step 7210 the amount of purchasing credits deducted from the IC are recorded in the terminal's memory and the net balance of credits due the payee are updated.

10           In step 7212 the terminal displays and prints receipt.

In step 7214 the transaction ends and the terminal returns to step 7200.

15           In step 7300 in Fig. 7.6, upon command from the CC1 the terminal searches for the net value between the issuing of purchasing credits onto the ICx and the decrementing of purchasing credits into the terminal by searching for the last system balancing entry, step 7116 or step 7210, and sends only the calculated net value onto the central clearinghouse operated in Level 3.

In step 7400 in Fig. 7.7, the central computer located at Level 3 enters in to memory the reporting of each payee's terminal net value.

20           In step 7402 in the CC1, the terminals that have issued more purchasing credits onto ICx then they have received from ICx sends funds to the CC1 as payment for the purchasing credits issued.

In step 7404 in the CC1, the terminals that have received more purchasing credits from ICx then they have issued onto ICx receives funds from the CC1 as payment for the sale of goods and services.

5           In step 7406 the CC1 records its final daily balance and prints out reports.

In step 7500 in Fig. 7.8, the IC is inserted into a PC so that activity recorded on the IC can be analyzed and printed out per the software used in the PC.

10           The invention provides an open network for neutral merchants and consumers that works with the fewest number of computer account entries and yet provides the most available privacy for the consumer payors and the neutral merchant payees. The consumers can maintain their anonymity. The merchants can maintain control of their proprietary information on sales since they only report net figures to the central clearinghouse versus reporting all of their sales  
15           figures.

Figs. 8.1A to 8.10E illustrate several embodiments including:

(1.) In Fig. 8.1A, an "open" POS network embodies a four level spending /saving system comprised of Level 1 SP (multiple subscriber/payors), who tender excess payments or deposit excess funds to Level 2 MC (multiple  
20           merchant/collectors), who in turn make computer entry of data and funds for electronic transfer to Level 3 CCC (a singular managed clearinghouse central computer), who in turn transfers data and funds to Level 4 (multiple provider accounts), for the final purchase of products or services.

25           In Fig. 8.1A the excess funds are created at point of sale counters (POS) by the merchant/ collectors (MC) who "front end" process the subscriber/payor

(SP) spending transactions to determine the excess difference between the purchase price of goods or services and the amount of payment rendered.

After the amount of excess funds is determined by the MC's electronic cash register (ECR), the SP makes a deposit into a clearinghouse central computer (CCC) by providing a transaction card or an account number to the MC. The MC then swipes the card or enters the account number through an ECR or a draft capture remote terminal to record the time, the terminal location, the amount of funds entered, and the account number used. The terminal or cash register then prints out a receipt of the depositing transaction and the MC returns the card and the receipt to the SP.

The depositing of individual transactions into the MC remote terminal can be completed in an "off-line" or "on-line" or a combination of both modes. At the completion of a specified period or amount, e.g. day, week, \$50.00, the total off line transaction file stored in the MC terminal is then batched "on line" to the CCC (clearinghouse's central computer). The ability to process individual depositing transactions in an off line mode is made possible due to the fact that the system does not require on line authorization, as in credit and debit card processing.

Each terminal location follows the same reporting procedure so that the CCC will have a record of all transactions made into the system, regardless of the location of the terminals. The files transferred to the CCC contain details of each deposited transaction by the identification of the account, the amount of the deposit, the date, and the terminal that accepted the deposit. The actual transfer of cash into the system starts when the MC deposit the cash received from the SP into their bank for EFT transfer to the clearinghouse's bank account and concludes with the CCC EFT transferring funds to each listed PC (provider account) per the transaction records received from the merchant terminals. The transfer of cash from one account to the next is accomplished by the usual and



customary bank EFT transferring through the ACH (Automatic Clearing House) or via EDI (Electronic Data Interchange).

Effectively, the system allows each SP the ability to make multiple deposits, in varied cross country locations, into terminals operated by unrelated parties, depositing as little as a penny in any one transaction, and often on a 24 hour demand basis.

The MC that operate the ECR terminals are at the time of depositing both neutral and passive as to the selection of the consumer's provider(s), as well as not directing the distribution of funds to the consumer's provider(s). Only in this system are SP able to deposit their excess change created when dealing with multiple and diverse payees. The money is deposited into an "open" network that will pool and then transfer the once fragmented funds onto PA selected by the SP. In this system as compared to the existing state of art, the PA who will receive the deposited funds from the network need not also be the original collector of the deposits. Therefore, we have a "open" system that allows for a mix and match of diverse collectors and providers.

Under the system it is possible for one entity to provide both a collect or and provider role, but under different and autonomous points in the network cycle. For example, Sears may enroll a subscriber consumer in a Sears store account allowing the consumer to use their Sears issued mag stripe card to identify them when they deposit excess change into any merchant/collector terminal. In this capacity Sears is playing the role of a distinct provider in the network. The card may then be used to deposit excess funds at fast food restaurants, convenience stores, other department stores, etc. Also the SP could go into any Sears store and deposit excess funds into a Sears terminal for transfer to the network. On these occasions Sears would be playing a distinct role as a participating MC, within the network, and follow the same procedures as any other MC, as well as also being a PA at the end of the network chain.

In Figs. 8.1B&C, the Clearinghouse Managed System (CMS) starts with Level 1, the subscriber/payors, tendering an excess financial payment to Level 2, merchant/collectors. They in turn enter the amount of the excess payment into an electronic cash register/remote terminals which then sends the funds and data  
5 on-line per transaction, or along with other deposits in a batched format, by a communication system to Level 3, clearinghouse central computer. Level 3 assigns the funds to an account previously opened by Level 1 SP through services provided by Level 3. The funds are then forwarded, when they reach pre-selected thresholds, by EDI (Electronic Data Interface) transfer to Level 4, the provider  
10 accounts, selected by Level 1 SP.

The Clearinghouse Managed System (CMS), has the network providing a more active role by the system's central computer enrolling the SP in accounts and then assuming the role of an account manager. Under this arrangement the network will direct the overall operation of the system, issue transaction cards  
15 (bar code, mag stripe and/or "smart" cards or devices), operate the system's central computer, provide both on-line and off-line communications between the POS terminals and the central computer, accept funds, assume fiscal responsibility for the SP funds on deposit, maintain all account records, provide all outside payments to parties selected by the SP, and even allow the SP the  
20 ability to access their accounts for the purpose of receiving credit at the time of POS purchase to pay the MC. Under the CMS, in addition to the network serving as an account manager, it will also appoint banks, credit card institutions, and merchant/collectors to assume additional fiduciary responsibilities.

In Figs. 8.1D&E, the Provider Managed System (PMS) starts with Level  
25 1, the subscriber/payors, tendering an excess financial payment to Level 2, merchant/collectors. They in turn enter the amount of the excess payment into an electronic cash register/remote terminals which then preferably send the funds and data, along with other deposits in a batched format, by a communication system to Level 3, clearinghouse central computer. Level 3 then

segregates the transactions per provider accounts. The data and funds are then forwarded, when they reach pre-selected thresholds, by EDI (Electronic Data Interface) transfer to the Level 4 providers for account management and final distribution. Level 1 SP initially join the network by enrolling in accounts with  
5 Level 4 providers.

The Provider Managed System (PMS), is an "open" system that creates a network whereupon SP will directly enroll in accounts managed by PA, receive mag stripe cards issued by the PA, and deposit their excess change at POS locations to be transferred by the MC to a neutral network clearinghouse (CCC).  
10 Under the PMS, the CCC will accept and process the transaction data and funds and forward both to the PA according to the card identification. The PA will then manage the accounts per the SP instructions.

In the PMS scenario both the merchant/clearinghouse are passive as to the opening of accounts and the SP selections of the final distribution of the funds.  
15 Here both the payees and the clearinghouse only accept deposits and transfer both the cash and transaction records onto the end PA.

Also under the PMS embodiment, once the funds are received by the PA, who can be banks, insurance companies, security firms, merchandisers, travel agencies, charitable institutions, etc., the SP will determine how to spend the  
20 savings for services and/or products.

In Fig. 8.1F, in both the Clearinghouse Managed System or Provider Managed System the data transfer is sent via a proprietary network from Level 2 MC to Level 3. After processing by Level 3 selected data is sent via a proprietary network to Level 4. On the funds transfer side Level 1 deposits the  
25 funds at Level 2 outlets. Level 2 deposits the funds into the MC's bank account and by EDI the funds are transferred to Level 3's bank account for final EDI to Level 4's bank account.

In Fig. 8.2, a system embodying the POS invention includes a clearinghouse central computer (CCC) containing a central processor CPU and a large data storage DS. A communications system CS that may include telephone lines, satellites, or cables connects the CCC to a number of electronic cash registers (ECRx) (where  $x = 1, \dots, M, \dots, N$ ) in retail outlets, such as shops, supermarkets, gasoline stations, department stores, etc. at locations remote from the central computer. Throughout this specification, the term  $x$ , when appended to the end of a reference character, is equal to  $1, \dots, M, \dots, N$ .

The ECRx cash registers are connected to respective keypads KP $x$  and card readers CD $x$ . Along with other components together they constitute a remote terminal RT that is connected to a variety of central computers.

In the CMS embodiment of the invention accounts are managed in the CCC. Money is collected at the ECRx for crediting to the consumers' ledgers in the accounts of various charities and other institutions such as banks, debit card issuers, credit card issuers, etc. The data storage DS contains individual storage for charity accounts CA and other accounts OA, such as for banks etc., all with ledgers for individual consumers.

In the PMS embodiment of the invention the CCC acts as a clearinghouse and transfers all data and funds onto the respective PA for account management and final distribution.

The CCC communications system CS also connects the CCC to charity computers CH $y$  and other computer OC $z$ , where  $y = 1 \dots k$ , and  $z = 1 \dots j$  such as bank computers, merchandise computers, debit account holders, credit card issuers, etc. These charities and other institutions are the ultimate receivers of the donations and deposits collected at the electronic cash registers ECRx. The CCC also includes a default account DA with consumer ledgers to hold moneys not otherwise allocated.

The ECRx includes a change display for exhibiting cash transactions, credit cards, or check purchases. The display automatically operates to show numbers in question. A card reader CDx with a keypad KPx allows the SP or clerk to enter the deposit directly. The keypad KPx permits the SP to change the allocation for this transaction alone or permanently. The keypad KPx also allows the SP to reduce the amount deposited so that he can receive cash change. The terminal RTx or ECRx reports the deposit directly to the CCC via the communication system CS. The CCC prints out periodic reports for interested parties on a need-to-know basis.

According to the invention, a consumer in a shop, supermarket, gasoline station, department store, etc. selects the desired merchandise and brings them to a clerk. The clerk inputs the price of all items in a ECRx by way of a register keyboard or a bar code reader and the register totals the price. The consumer offers the clerk either the exact amount of cash or a sum exceeding the price. Then the clerk enters that cash and the amount into the cash register. The ECR subtracts the price from the cash.

If the consumer gives the clerk the exact price nothing more need happen. However, if the money offered the clerk exceeds the price, the consumer may, if he or she wishes, choose to receive the change or to donate or deposit all or a portion of the change. To do the latter, he or she enters a card number into the keypad KPx or enters the card itself into the card reader CDx. The latter reads the number from a bar code or magnetic stripe on the card. The consumer can also enter into the keypad how much of the total change, he or she is to receive, should be credited to various predetermined accounts in the CCC. The register ECRx reads the numbers entered into the keyboard or the number entered by way of the card reader CDx.

In addition if SP wish to make a direct deposit of funds into the network, (rather than make a purchase and tender excess funds), all that is necessary is

to enter the amount deposited into the ECRx and the funds will be transferred to the CCC.

5 A transaction card DC1 according to the invention appears in Fig. 8.3 with a magnetic stripe MS carrying the donor's number. A card DC2 in Fig. 8.3 includes the number in the form of a bar code BC. In another embodiment of the invention the card may be a smart card. Also in regard to the use of bar codes, the codes may be incorporated in the design of a key chain device or displayed on windshields or car windows to allow the invention to be accessed under a variety circumstances, i.e., drive through window, toll booth, etc.

10 After receiving the data, the ECR accesses the CCC. The latter allocates the change, a portion of the change, or the amount of a direct deposit provided by the SP among various charity accounts CA and other accounts OA in the CCC. The distributions to various accounts are preprogrammed commands which the consumer has previously instructed the CCC to complete. For each deposit  
15 or donation made, the SP receives a printed receipt of the transaction from the ECRx or RTx.

If desired, the consumer can choose to deposit only a fraction of the difference between the cash presented and the price. The consumer then enters the amount to be deposited and receives the appropriate cash change.

20 According to an embodiment of the invention, with every transaction, the computer electronically transfers all amounts allocated to each charity CHy immediately, as soon as the computer can access the charity computer, or when there is a sufficient amount of money. In this way the donor is always assured that the contribution takes effect. Deposits in the other accounts OA may be sent  
25 immediately or held until a sufficient amount is accumulated to be acceptable by the other institutions.

An example of the operation of the CMS embodiment appears in the flow chart of Figs. 8.4A&B. This flow chart depicts an on-line version of the CMS embodiment. The CMS, however, could also be operated in an off-line mode and the transactions that are processed by Level 2 MC would then be stored in memory and transferred in a batched format to Level 3 CCC at periodic intervals. In Fig. 8.4A&B it is assumed that the customer is purchasing merchandise that may carry bar codes. However, the invention is also applicable for purchase of services, rentals, or other valuables.

In step 8104 of Fig. 8.4A, the clerk enters the prices of the various pieces of merchandise, either by way of a keyboard (not shown) or a bar code reader BCRx, into the cash register ECR. In step 8107, the cash register determines the total price. The customer then gives the clerk the cash to cover or exceed the total price. While this example refers to cash, the invention is also applicable to payment by check, credit or debit card. That is, the customer may wish to have an amount charged to the checking account, credit or debit card in excess of the price in order to make donations or distributions according to the invention. For purposes of this description the word cash is used also to embrace check, credit or debit card payments.

In step 8110, the clerk then enters the amount of the cash payment into the ECRx. Under normal circumstances, the cash payment will equal or exceed the total spending price unless there is deposit of cash into the system without a purchase. However, the invention allows the SP to withdraw moneys from a credit balance in one of the accounts recorded in the CCC. While unlikely, this may also occur with a credit or debit card sale. Thus, in some situations, the amount of cash may fall short of the total price. In step 8114 the cash register determines if the amount of cash exceeds the total price.

If the answer is yes, the cash exceeds the sale price, the ECRx determines the amount of change by subtracting the price from the cash in step 8117. If the

answer is no, the cash does not exceed the sale price, the register determines the amount due in step 8120. In step 8124, the cash register ECRx asks whether the customer has and wishes to use a network card. The clerk or customer may respond by keyboard, or directly by entering the card into the card reader CDx.

5           If the customer does not have or does not wish to use a network card in response to step 8124, the cash register ECRx prints the transaction in step 8127 and in step 8130, prompts the clerk to make change or collect more cash. If the customer does not offer any needed cash the clerk must abort or otherwise correct the transaction.

10           If the customer wishes to use a network card, the clerk may enter this information into the register's keyboard, or the customer may enter the card into the card reader CDx. In step 8134, the ECRx reads the network card. In step 8137, the ECRx determines whether the card is valid. If not, the register ECRx returns to step 8127.

15           If the card is valid, the ECR again asks if the cash offered exceeds the total price in step 8140. If not, in step 8144, the ECR prompts the cash register CR display DS to ask if the cash register should debit the deficient amount from one of the SP cardholder's accounts. If not, the process returns to step 8127.

20           If the answer to step 8144 is yes, the computer CCC, in step 8145, asks for the customer to enter his or her personal identification (PIN) number. In step 8146, the CCC determines if the PIN number matches the card number. If not, the computer returns to step 8127. If yes, it determines if the card contains a sufficient balance to cover the amount due. If not, the process again returns to step 8127. If yes in step 8150, the computer withdraws the money from the card  
25           account and credits it to the account of the establishment or the sponsor SPx as pre-programmed. In step 8150 the cash register ECRx also prints out the transaction.



If the answer to step 8140, namely to the question whether there is more cash than the price, is yes, step 8154 causes the ECR to display a message asking whether the customer wishes to retain some of the change due. If yes, the ECR prompts the customer to enter into the keypad KP<sub>x</sub> how much he or she wishes to retain or deposit. In step 8157, the cash register ECR indicates to the clerk to give the appropriate net change and shows the net deposit amount.

The process now goes to A in Fig. 8.4B. If the answer to step 8154 is no, the process also continues at point A in Fig. 8.4B.

At A, step 8204, in Fig. 8.4B the CCC searches the records to find the pre-programmed pay out amounts for the particular network card. The pay out amounts are entered as shown in Fig. 8.6. In step 8207 of Fig. 8.4B, the CCC starts apportioning the pay out amounts in the pre-programmed proportions by priorities and amounts. In steps 8210 to 8227 it enters the selected amounts in the accounts of various charities, banks, debit card, and vouchers. Normally there should be no remaining amount. However, such an amount may exist. Thus in step 8230 the CCC asks if there remains any outstanding amount. If yes, step 8234 enters it into a default account selected by the SP at an earlier time. In step 8237, the CCC updates the accounts both in its own data banks and in the computers CH<sub>y</sub> and OC<sub>z</sub>. The computers CH<sub>y</sub> and OC<sub>z</sub> confirm the transactions.

If the answer to step 8230 is no, there are outstanding amounts, the process goes to step 8237 directly. In step 8240 the ECR<sub>x</sub> prints out the amounts deposited, entered into various accounts, the prices, the change, etc.

The CCC and the ECR<sub>x</sub> then prompt the customer in step 8244 to ask if he or she wishes to change the programming of the various accounts in the CCC. If yes, the card reader CD<sub>x</sub> or the CCC displays the apportionment and the amounts, including balances in step 8247, the consumer then enters the

desired changes in step 8250, and the CCC or the card reader makes the changes in step 8254. This ends the transaction in step 8257. If the answer to step 8244 is no, the process goes directly to step 8257.

5 In one embodiment of the invention, the consumer carries out steps 8244 to 8254 at a separate time in a separate card reader CDx and keypad KPx. This prevents the consumer from using these machines while the clerk serves another customer. In fact, the establishment may furnish a separate terminal RTx just for this purpose.

10 Prior to listing in the CCC, the invention qualifies each charity for their tax exempt status, operations, management activities, litigation, and other pertinent legal and financial information. The charity must certify to the facts. If the reported information meets the requirement, the charity qualifies. The CCC initiates a checking and updating of the qualification facts on a regular basis. The CCC keeps the qualified charities current on an ongoing basis.

15 The register furnishes the SP with a printed receipt of each donation for tax purposes and authentication that the charity will receive the money. In an on line mode the receipt can show the date, outlet location, serial number, amount donated, total donated to date, and the current financial results of any specific campaigns or projects received by the charity overall.

20 One embodiment of the invention furnishes other rewards to the donor. For example, the terminal may play a tune, such as "It's a Small World" in response to a donation to the United Nations children's fund. Alternatively, the donor may receive a message that the last ten cent donation has closed another \$100 unit in donations to this charity and provide a special discount coupon. As  
25 another example the donor may receive a message that the donor's contribution is being matched by an independent sponsor with a bonus donation.

The invention supervises, implements, and coordinates charitable contributions to benefit all participants in the giving cycle, including the donors, sponsors, charitable organizations, Internal Revenue Service, and end recipients. It allows remote receiving and sending stations, connected to a central processing station, to accept any denomination of giving from a single penny to unlimited dollars. Regardless of the size of the donation, it effectively warrants to all participants that the designated charity has received the donated funds. It thus supports the authenticity of each donation. It can offer unlimited access to the donors concerning their contributions to charities and savings accounts, the intended use of the funds, and feedback concerning the total received by the funds.

The invention effectively leverages the power of mere pennies into substantial dollars that in turn become available to charities on a short term collection basis. It rewards and encourages philanthropic giving and savings to all individuals on an everyday basis

An example of the operation of the PMS embodiment appears in the flow chart of Fig. 8.5A&B. In the PMS embodiment, the opening and closing of accounts is assumed by PA central computers. This flow chart depicts an off line version of the PMS embodiment in which transactions are processed at Level 2 MC and then stored in memory and transferred via a batched format to Level 3 CCC at periodic intervals. Level 3 would then sort the transactions according to Level 4 account origination and forward said transactions to Level 4. The PMS, however, could also be operated in an on line mode and the transactions would then be processed by a smart card or on line with a central computer located at Level 3 or 4.

Referring now to Fig. 8.5A&B, there is a flow chart which illustrates the steps which the PMS processes transactions made through ECRx at Level 2 MC.

Beginning at the top, in step 8300, the remote terminal at the POS counter stands ready to receive input and is also scrolling information messages on how to use the system.

5 In step 8302, the clerk inputs the price of each item into ECRx by a bar code reader or by keypad.

In step 8304, the terminal computer totals the price of all of the items.

10 In step 8306, the clerk enters the amount of payment, on most occasions cash, into the terminal computer. However, if a check, debit or credit card is tendered by the SP, any excess payment effectively becomes cash and is therefore eligible for deposit.

In step 8308, the terminal computer asks if the amount tendered is more than the total purchase price.

15 If no and the number is zero, the terminal computer goes to step 8310 and a receipt is printed out. In step 8312 the transaction would end and the terminal computer returns to step 8300 for new transactions.

If yes, in step 8314 the terminal computer calculates the difference and displays the value and goes to step 8316. In step 8316 the terminal computer asks if the consumer wishes to use the system.

20 If the answer is no, in step 8318 a receipt is printed out, and in step 8320 the transaction is ended and the terminal computer returns to step 8300.

If the answer to step 8316 is yes, in step 8322 the terminal computer asks if you are a subscriber?

If the answer is no, step 8324 allows a non-subscriber to use the system by asking the clerk to enter in a generic access code. On these occasions, most likely, the non-subscriber will be making a donation for charitable purposes. At this time in step 8326, the non-subscriber will pick from a list of approved charities and the clerk will key in the selection. In step 8328 a receipt will be printed showing evidence of the contribution. This same receipt will also provide an audit trail for individuals and or organizations to confirm that the charitable institutions received the donation. In step 8330 the transaction would end and the terminal computer returns to step 8300.

Referring now to Fig. 8.5B if the answer is yes, in step 8332 the subscriber or the clerk enters the subscriber's card into the terminal. The terminal computer reads the card and automatically records all of the cents in the POS change as a deposit or contribution. If the subscriber wishes to add in all of the change (coins and bills) 8332A is entered into the computer. If the subscriber wishes to add in a specified portion of the change, 8332B is prompted into the keypad along with the specified amount, for example \$1.54 out of \$2.54 in available change.

In step 8334, the terminal computer asks if the subscriber wishes to bypass their default instructions for charities and select a special charity for this transaction.

In step 8336 if the answer is no, the terminal computer advances to step 8340.

If yes in 8334, in step 8338 the bypass charity account number is entered into the terminal computer through the keypad.

In step 8340 the subscriber will receive a receipt showing their donor

contribution.

In step 8342 the terminal computer writes the transaction into memory.

In step 8344 the transaction would end and the terminal computer returns to step 8300.

5           In step 8346, on a programmed time basis, the terminal computer forwards, by modem, the batch transactions held in memory to Level 3 CCC.

In order to enroll in the CMS embodiment, SP would sign up for accounts with Level 3 CCC. In order to enroll in the PMS embodiment, SP would sign up for accounts with Level 4 PA.

10           Fig. 8.6 is a flow chart that illustrates the enrollment steps for a CMS or PMS account which a central computer takes, through the keypad KP<sub>x</sub>, to open or revise an SP account. A display DS<sub>x</sub> on the keypad KP<sub>x</sub> or the ECR<sub>x</sub> allows a central computer to ask the consumer to perform certain acts. After the party has accessed the computer, in step 8404, it asks whether the consumer has a  
15           network card. If no in step 8407, the computer asks the consumer to enter his or her name or address. In step 8408 the computer determines if all information has been entered. If not, it returns to step 8407 to ask again for the desired information. If yes, the computer proceeds to step 8410 to ask the consumer to choose a personal identification (PIN) number. In step 8414 the computer  
20           determines if the PIN number is acceptable. If not, it returns to step 8410 for another number. If yes, the computer advances to step 8417 to assign a new card number.

If the answer in step 8404 is yes, that the consumer has a card, the computer proceeds to step 8420 to have the customer enter the card. In step  
25           8424 it asks the consumer to enter his or her pre-selected PIN number. In step 8427 it determines whether the entered PIN number matches the pre-selected

PIN number. If not, it returns to step 8424 for a corrected number. The computer allows this procedure between steps 8424 and 8427 to occur only three times, thereafter it aborts the program.

5        If the PIN number is correct and thereby qualified, the computer in step 8430 lists all existing accounts and amounts deposited during any specific time period, such as the calendar year. The consumer may request any time period. In step 8434 it also lists all accounts with balances. In step 8437 it asks the consumer to list all accounts to be eliminated, if any. In step 8440 it asks the consumer to approve any accounts to be eliminated if any. The computer then  
10       proceeds to step 8444 to list all new accounts. Step 8444 also receives a prompt from step 8417 if the card number is new.

15       In step 8447 it determines if the account, in the form of a charity, merchant, or institution, is in the list of charities or institutions that have been accepted by the system. If the answer is no, the computer in step 8448 asks if the consumer wishes to have a temporary account set up for that donee or institution pending investigation. If yes to step 8448, the computer in step 8449 sets up a temporary account, and lists it as qualified pending investigation. If the answer to 8448 is no, the computer goes back to step 8447.

20       Once the computer has qualified a donee or institution, it goes to step 8450 to ask if this is the last account the consumer wishes to add. If not, the process goes back to step 8444. If yes, the computer cancels all prior allocations in step 8454 and in step 8457 sequentially lists all remaining and new accounts showing the old allocations where applicable. In step 8460 it asks the consumer to enter a new percentage allocation for each account. As a check, in step 8464,  
25       the computer asks if the total percentages exceed 100%. If yes, it returns to step 8460 for a new entry. If not, it proceeds to step 8467 to ask if this is the last account. If not, it goes to step 8470 to ask the consumer to go to the next account and returns to step 8460. If yes, the computer goes to step 8474 where

it asks if the total percentage is 100%. If not, the computer places the remaining percentage in a consumer's personal default account and asks the consumer to select accounts and change allocations in step 8477. The computer in step 8480 ends the process and prints out the results.

- 5           (2.)       Referring now to calculating the additional amount by predetermined data, referred to as the rounder system, Fig. 8.7A is a block design that describes the invention's four level rounder system that will allow consumers to create excess funds when they make exact payments for services or goods using checks, credit, or debit drafts.
- 10           In Fig. 8.7 Level 1 a subscriber (SP) makes an exact payment using a check, credit or debit card and tenders the draft to a payee on Level 2 who in turn deposits the draft for customary authorization, approval, and payment by Level 3 Account Managers (AM) (as in banks or credit institutions). Under the provisions of the invention Level 3 AM will now also add or subtract a
- 15           predetermined calculation to the face amount of the draft or the account entry itself for the purpose of creating an excess payment. The amount of excess payment called a rounder amount is then added to the face amount of the draft and the total number is then debited (as in withdrawals or account fees) or added (as in deposits or interest payments) to the account balance. Level 3 AM
- 20           will then manage the funds and make distributions to Provider Services (PS) Level 4 (as in mutual funds, annuities, etc.).

          The rounder system embodiment of the invention creates excess funds from exact payments and without the cooperation or even awareness of the payee who accepts payments for the purchase of services or goods. The system

25           is based on the ability to create excess funds by applying a determinant to the face amount or number of account entries, e.g. checks, ATM withdrawals, credit and debit drafts.



The rounder system versus the POS system occurs in a different environment and at a different point in the commercial purchasing cycle. The processing of transactions occurs at the "back end" of the commercial cycle when check and credit drafts are debited against their existing account balances.

5 Effectively, the invention adds (as in withdrawals or account fees) or subtracts (as in deposits/payments or interest dividends) an amount of excess funds, e.g. \$1, \$2.14, \$5.01, \$10, \$0.28, etc., to the face amount or number of entries and then adjusts the account balance accordingly. The amount of excess funds are then displayed in the account and periodically transferred to accounts for

10 provider services, i.e., mutual funds, annuities, merchandise, charities, etc.

Under this system the SP opens up a new account or updates an existing account, e.g. checking, credit, or debit account, and instructs the bank or credit card issuer to add or subtract a determinant to each transaction after they are returned to the bank or credit issuer for final debiting against the consumer's

15 account.

The excess funds that are created by the rounder system can be held internally by the bank or credit institution or assigned to other providers for the purchase of mutual funds, annuities, bonds, travel services, merchandise, etc.

When consumers use the above described improved methods to create

20 excess funds from spending transactions in a combined form, they will have achieved the ability to save every time they spend, regardless of whether they use cash, write a check, use an ATM machine, use a credit or debit card.

Referring now to Fig. 8.8, there is a flow chart which illustrates the steps which central computers take, through a keypad and display, to open or revise

25 a rounder account. The subscriber/subscriber's account instructions will then be applied by the institutions' central computers (CC) to create the excess funds.

40

In step 8500 the CC asks the consumer if you have a rounder account.

5        If no, in step 8502 the CC asks the consumer to enter his or her name, address, social security number, select a pin number, as well as any other vital information needed to open an account.

In step 8504 the CC determines if all the needed information has been entered. If not, it returns to step 8502 to ask again for the desired information.

10       If yes, the CC proceeds to step 8506 to input the consumer's PIN number or code name. In step 8508 the CC determines if the PIN number is acceptable. If not, it returns to step 8506 for another number.

If yes, the CC advances to step 8510 to assign a rounder account number. The computer then goes to step 8522 to create new accounts.

15       If the answer in step 8500 is yes, that the consumer is already a subscriber, the CC proceeds to step 8512 to have the subscriber enter their rounder account number. In step 8514 it asks the subscriber to enter his or her pre-selected PIN number. In step 8516 it determines whether the entered PIN number matches the pre-selected PIN number for the subscriber number entered. If not, it returns to step 8512 to correct the subscriber number and/or PIN number. The CC allows this procedure between steps 8512 and 8516 to recur only three times, 20       thereafter it aborts the program.

If the PIN number is correct and thereby qualified, the CC in step 8518 lists the rounder number or percentage that is applied to each account entry (\$1, \$3, 2%, etc.), stop orders (when to stop processing rounder transactions), the vehicles used for processing and depositing, e.g., checking accounts & ATM

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terminals, debit card use, and credit card use, names and addresses of all sub-accounts (savings, investing, and charitable choices), and the percentage of the rounder transaction assigned to each sub-account for a cumulative total of 100%. . In step 8520 it asks the subscriber to list all accounts to be  
5 eliminated or modified, if any.

In step 8522 the CC asks the subscriber if there are any new accounts to add.

If the answer is no, the computer goes to step 8526 to write an updated rounder account file. . If yes, the CC then proceeds to step 8524,  
10 and asks the subscriber to enter any new accounts according to the rounder number or percentage that is applied to each account entry (\$1, \$3, 2%, etc.), stop orders (when to stop future processing), the vehicles used for processing and depositing, (e.g., checking accounts & ATM terminals, debit card use, and credit  
15 card use), names and addresses of all sub-accounts (savings, investing, and/or three charitable choices), and the percentage of the rounder transaction assigned to each sub-account for a cumulative total of 100%.

In step 8526 the computer writes a file, called the rounder account file, containing the new or revised subscriber's identification information and account instructions.

20 In step 8528 the process ends and the computer returns to step 8500.

The following information will provide clarity for the steps that will be detailed in Fig. 8.9A-E and Fig. 8.10A-E.

The face or entry amount means the actual amount of the check/ATM withdrawal or credit/debit card charges prior to any rounder activity.

The rounder transaction is the numerical function applied against the face amount or the entry itself, i.e., \$1.00, \$3.00, 2%, or a specific number \$1.50 to create excess funds. In the preferred embodiment this will be a whole dollar amount such as \$1.00, \$5.00, \$10.00, etc. added to the entry.

- 5           The coin amount is the presence of coins in the face amount, i.e. check for \$10.14.

The rounder amount is the amount of excess funds produced by applying the rounder transaction to the entry minus the coin amount, i.e. \$10.14 using a \$1.00 rounder will produce \$0.86 as the rounder amount of excess funds.

- 10           The total withdrawal will be the rounder amount plus the entry amount which will be debited against the checking account or credit card balance to determine the new account balance.

- 15           Referring now to Fig. 8.9A-E, there is a flow chart which illustrates the steps which bank central computers take, through a keypad and display, to collect funds, manage funds internally and to disburse funds.

Beginning at the top of Fig. 8.9A the bank first transmits to the CC, assigned to the clearing and reconciling of checking accounts, all transactional information and directions for rounder account processing.

- 20           In step 8600 the checking account transaction is read. The transaction can be a check draft, an ATM withdrawal, checking account fee, an interest payment, etc.

In step 8605 the computer gets the checking account balance.

In step 8610 the computer asks, Is this account a rounder account

subscriber?

If the answer is yes, in step 8620 the transactions are processed according to rounder transaction instructions.

5 If the answer is no, in step 8740 the transactions are processed without the rounder transaction instructions (See Fig. 8.4E).

In step 8747 basic account balances are updated.

In step 8750 the computer writes processed transactions to file.

In step 8755 the computer reads next checking transaction.

10 In step 8760 the computer asks, Is this the end of the file? If the answer is yes, computer goes to step 8765. If the answer is no, computer goes to step 8600.

In step 8765 the computer sorts all transactions.

In step 8770 the computer apportions rounder account contributions per account instructions contained in step 8526, the rounder account file.

15 In step 8775 the computer transfers out the charity contributions, savings, investments, and other accounts.

The computer processing required to create rounder account contributions is detailed in Fig. 8.9B. Starting at the top, in step 8622 the computer asks, Is this transaction a debit or withdrawal?

20 If the answer is no, computer goes to step 8634.

If the answer

is yes, computer asks in step 8624, In the transaction are the cents greater than zero cents?

The following will assume the application of a \$1.00 rounder transaction

- 5           If the answer is no, in step 8628 the rounder transaction would equal the rounder amount. For example if the rounder transaction is \$1.00, to be added to the entry amount of a \$10.00 withdrawal, the rounder amount of \$1.00 will be created as excess funds for the rounder account and the total withdrawal will be \$11.00.
- 10           If the answer is yes, in step 8626 the cents in the purchase price will be subtracted from the rounder transaction and the net difference will become the rounder amount which will then be deposited into the rounder account. For example if the purchase price was \$10.14 cents and \$1.00 was the rounder transaction \$0.14 would be subtracted from the \$1.00 and the net of \$0.86 would
- 15           be the rounder amount which would then be deposited into the rounder account. The total withdrawal would still be \$11.00           In step 8630 the rounder amount and the entry amount are added together to determine the total withdrawal.

- 20           In step 8632 the total withdrawal is then subtracted from the existing balance to determine the new balance.

The detailed computer processing required to create rounder account contributions is continued in Fig. 8.9C in regard to deposits or fee income.

- 25           In the processing of deposits or interest into accounts we reverse the process and decrement the amount of money going into the checking account so that we can create excess funds. Therefore, we can apply similar rules, as

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previously discussed, when the invention dealt with account withdrawals, but only in a decrementing fashion.

In the preferred embodiment we will decrement deposits and interest payments only to eliminate coin amounts.

5           Starting at the top, in step 8634 the computer asks, Is this transaction a deposit or interest fee?

If the answer is no, the computer goes to step 8648.

If the answer is yes, the computer asks in step 8638, In the transaction are the cents greater than zero cents?

10           If the answer is no, in step 8640 the rounder account contribution equals zero since there are no coins in the entry amount of the deposit. The program then goes to step 8644.

15           If the answer is yes, in step 8642 the cents are subtracted from the face amount and the coins become rounder contributions. For example, if the deposit was for \$10.14 the rounder would take off the \$0.14 and the net deposit would be for \$10.00.

In step 8644 the rounder amount is subtracted from the face amount to determine the total deposit.

20           In step 8646 the total deposit is then added to the existing balance to determine the new balance.

The ability for the invention to remove coins from checking account deposits will allow for easier balancing of checking accounts.

The detailed computer processing required to create rounder amounts is continued in Fig. 8.9D when the transaction is a fee.

The rules applied here are the same as in processing withdrawals. But again for the preferred embodiment, which will follow, the process will only be applied to the presence of coin amounts in fee charges.

Starting at the top, in step 8648 the computer asks, Is this a fee?

If the answer is no, the computer goes to step 8662. If the answer is yes, the computer asks in step 8650, In the transaction are the cents greater than zero cents?

10            If the answer is no, in step 8652 the rounder account contribution equals zero since there are no coins in the face amount of the fee. The program then goes to step 8656.

15 If the answer is yes, in step 8654 the cents are added to the face amount and the coins become the rounder amount. For example, if the fee was for \$10.14 a one dollar rounder add another \$0.86 and the net withdrawal would be for \$11.00.

In step 8656 the rounder amount is added to the face amount to determine the total withdrawal.

20 In step 8660 the total withdrawal is then subtracted from the existing balance to determine the new balance.

The ability for the invention to remove coins from checking account fees will allow for easier balancing of checking accounts.



The computer steps required to process non-rounder account transactions are detailed in Fig. 8.9E. Starting at the top, in step 8741 the computer asks, Is this transaction a debit, withdrawal, or fee?

5           If the answer is yes, in step 8742, the checking account balance is determined by subtracting the transaction amount from the account balance.

          If the answer is no, computer goes to step 8743 and asks, Is this transaction a deposit or interest?

          If the answer is yes, in step 8744 the checking account balance is determined by subtracting the transaction amount from the account balance.

10           If the answer is no, the computer in step 8745 displays error message.

Referring now to Fig. 8.10A-E, there is a flow chart which illustrates the steps which card issuers central computers take, through a keypad and display, to collect funds, manage funds internally and to disburse funds.

15           Beginning at the top of Fig. 8.10A, the card issuers first transmit to the CC used in clearing and reconciling debit and credit card accounts all transactional information of the subscribers who round up or down their debit/credit card transactions. This information has been obtained, see Fig. 8.8, through the enrollment process.

20           In step 8800 the debit/credit account transaction is read. The transaction can be a debit/credit charge processed through a POS terminal, filled in by hand, called in over the telephone, etc.

          In step 8805 the computer gets the cardholder's account balance.

In step 8810 the computer asks, Is this account a rounder account subscriber?

If the answer is yes, in step 8820 the transactions are processed according to rounder instructions.

5           If the answer is no, in step 8920 the transactions are processed without the rounder instructions.

In step 8930 the account balances are updated.

In step 8940 the computer writes processed transaction to file.

In step 8950 the computer reads next debit/credit card transaction.

10           In step 8960 the computer asks, Is this the end of the file? If the answer is yes, computer goes to step 8970. If the answer is no, computer goes to step 8800.

In step 8970 the computer sorts all transactions.

15           In step 8980 the computer apportions rounder account contributions per account instructions contained in step 8526 of the rounder account file.

In step 8990 the computer transfers out the charity contributions, savings, investments, and other accounts.

20           The computer processing required to create rounder transaction contributions is detailed in Fig. 8.10B. Starting at the top, in step 8822 the computer asks, Is this transaction a debit or credit card charge?

If the answer is no, the computer goes to step 8834. If the answer is yes, the computer asks in step 8824, In the transaction are the cents greater than zero cents?

5 If the answer is no, in step 8828 the rounder transaction would equal the rounder amount. The computer then goes to step 8830. For example, if the rounder transaction is \$1.00, to be added to the entry amount of the credit charge of say \$300.00, the rounder amount of \$1.00 will be created as excess funds for the rounder account and the total charge will be \$301.00.

10 If the answer is yes, in step 8826 the cents in the charged amount will be subtracted from the rounder transaction and the net difference will become the rounder amount which will then be deposited into the rounder account. For example if the credit charge was \$300.14 cents and \$1.00 was the rounder transaction \$0.14 would be subtracted from the \$1.00 and the net of \$0.86 would be the rounder amount which would then be deposited into the rounder account.

15 The total charge would still be \$301.00 In step 8830 the rounder amount and the entry amount are added together to determine the total charge.

In step 8832 the total withdrawal is then subtracted from the existing balance to determine the new balance.

20 The detailed computer processing required to create rounder account contributions is continued in Fig. 8.10C in regard to account payments or interest dividends. In the processing of payments into accounts we reverse the process and decrement the amount of money going into the account so that we can create excess funds. Therefore we can apply similar rules, as previously discussed when the invention dealt with account withdrawals, but only in a

25 decrementing fashion.

In the preferred embodiment, the invention will only decrement payments when coins are present.

Starting at the top, in step 8834 the computer asks, Is this transaction a payment or interest dividend?

- 5                    If the answer is no, computer goes to step 8848.                    If the answer is yes, computer asks in step 8838, In the transaction are the cents greater than zero cents?                    If the answer is no, in step 8840 the rounder account contribution equals zero since there are not any coins in the entry amount of the deposit. The computer then goes to step 8844.
- 10                   If the answer is yes, in step 8842 the cents are subtracted from the entry amount and the coins become rounder contributions. For example if the payment was for \$500.14, the rounder would take off the \$0.14 and the net deposit would be for \$500.00.
- 15                   In step 8844 the rounder amount is subtracted from the entry amount to determine the total payment.                   In step 8846 the total withdrawal is then subtracted from the existing balance to determine the new balance.
- 20                   The detailed computer processing required to create rounder amounts is continued in Fig. 8.10D when the transaction is a fee.
- The rules applied here are the same as in processing withdrawals. But again for the preferred embodiment, which will follow, the process will only be applied to the presence of coin amounts in fee charges.

Starting at the top, in step 8848 the computer asks, Is this a fee?

If the answer is no, computer goes to step 8860.                    If the answer

is yes, computer asks in step 8850, In the transaction are the cents greater than zero cents?

5 If the answer is no, in step 8852 the rounder account contribution equals zero since there are not any coins in the face amount of the fee. The computer then goes to step 8856.

If the answer is yes, in step 8854 the cents are added to the entry amount and the coins become the rounder amount. For example if the fee was for \$10.14 and a one dollar rounder, add another \$0.86 and the net withdrawal would be for \$11.00.

10 In step 8856 the rounder amount is added to the entry amount to determine the total withdrawal.

In step 8858 the total withdrawal is then subtracted from the existing balance to determine the new balance.

15 The computer steps required to process non-rounder account transactions are detailed in Fig. 8.10E. Starting at the top, in step 8921 the computer asks, Is this transaction a charge or fee?

If the answer is yes, in step 8922, the credit balance is determined by subtracting the transaction amount from the account balance.

20 If the answer is no, the computer goes to step 8923 and asks, Is this transaction a payment or interest dividend?

If the answer is yes, in step 8924 the credit account balance is determined by subtracting the transaction amount from the account balance.

If the answer is no, the computer in step 8925 displays error message.

The invention provides a unique and presently unavailable way for consumers to save every time they spend, regardless of whether they use cash, write a check, use an ATM machine, use a credit or debit card.

5           The invention provides an "open" POS system whereupon consumers can make excess payments at point of sale counters and have the excess funds be put in special accounts. The "open" system for making excess payments will comprise a four level network utilized in combination with consumers referred to as subscriber/ subscribers (SP), payees referred to as merchant/collectors (MC), a  
10           central computer/clearinghouse/ network (CCC), and provider accounts (PA). The POS system will allow SP the ability to create excess funds from the overpayment of spending transactions using cash, check, credit, or debit card, at POS counters and have said excess overpayments be transferred through a CCC onto provider accounts selected by said subscriber/subscribers (SP).

15           The invention also provides a four level rounder system (RS) for subscriber/subscribers to create excess funds from account entries connected with transactions paid for by check, ATM machine, credit, or debit card (which can occur at a variety of commercial points: POS counters, on a person to person basis, by mail, by wire transfer, by telephone, by computer, etc.). The rounder  
20           system would apply a computerized rounder amount to create excess funds in which the active cooperation of the payee is not needed and when the face amount of the payment being tendered is not in excess of the actual purchase price as the required means to establish the excess funds.

25           While embodiments of the invention have been described in detail, it will be evident to those skilled in the art that the invention may be embodied otherwise without departing from its spirit and scope. Therefore, the following claims are meant to encompass all alternatives and modifications within the scope and spirit of the present invention.

The invention furnishes an improved systems to store purchasing credits on an intelligent card by buying credits from neutral merchants and redeeming the credits at participating merchants for goods and services in the future. The system is a network composed of consumers, neutral participating merchants, and  
5 a central clearinghouse. By consumers being able to buy open purchasing credits in advance from a variety of participating neutral merchants, consumers will then have convenience in setting aside money and the flexibility of using the credits in a variety of merchant circumstances.

The invention also provides an automatic donation system for a  
10 sales establishment includes an entry arrangement for entering the price of a product into a cash register and for entering the amount of cash being paid and a calculator for determining the excess cash payment. A card reader keypad receives a card number for accessing data including charity accounts concerning the card, and a computer apportions at least a part of the excess cash payment  
15 among said accounts, and then prints out the amounts entered.

What is claimed is:

1. A method of accumulating credits in payor surplus accounts from financial transactions between a payor and a payee, comprising:

entering a demanded amount due the payee:

5       entering an additional amount offered by the payor:

and depositing the additional amount in the surplus account.

2. A method as in claim 1, wherein the step of depositing the additional amount includes the step of the payee crediting the additional amount to the surplus account in the hands of a central clearing entity, so that the payee remains  
10       neutral to the additional amounts.

3. A method as in claim 1, wherein said step of entering an additional amount includes calculating the additional amount from predetermined data associated with the surplus account.

4. A method as in claim 2, further comprising the step of printing out the status  
15       of said surplus account.

5. A method as in Claim 2, wherein said surplus account includes sub accounts identifying a plurality of charities, bank, and other sub accounts and the step of depositing the additional amount includes assigning predetermined portions of said surplus account to said sub accounts.

20       6. A method as in claim 3, further comprising the step of printing out the status



of said surplus account.

7. A method as in Claim 3, wherein said surplus account includes sub accounts identifying a plurality of charities, banks, and other sub accounts and the step of depositing the additional amount includes assigning predetermined portions of said surplus account to said sub accounts.

8. A system for accumulating credits in surplus accounts from financial transactions between a payor and a payee, comprising:

a network:

first entry means for entering a demanded amount due the payee;

second entry means for entering an additional amount offered by the payor; and  
depositing means for depositing the additional amount in the surplus account.

9. A system as in claim 8, wherein the depositing means includes payee crediting means for the payee crediting the additional amount to the surplus account in the hands of a central clearing entity, so that the payee remains neutral to the additional amounts.

10. A system as in claim 8, wherein said second entering means includes calculating means for calculating the additional amount from predetermined data associated with the surplus account.

11. A system as in claim 9, further comprising printing means for printing out the status of said surplus account.

12. A system as in claim 9, wherein said surplus account includes sub accounts identifying a plurality of charities, bank, and other financial institutions and the depositing means includes assigning means for assigning predetermined portions of said surplus account to said sub accounts.

5       13. A system as in claim 10, further comprising printing means for printing out the status of said surplus account.

14. A system as in Claim 10, wherein said surplus account includes sub accounts identifying a plurality of charities, banks, and other financial institutions and said depositing means includes assigning means for assigning predetermined portions  
10       of said surplus account to said sub accounts.

15. A method of issuing, decrementing, and writing balances of open purchasing credits computed by computer on an intelligent card by a neutral merchant payee and coordinated by a central clearinghouse, comprising:

initializing the intelligent card by the neutral merchant:

15       entering the amount paid for purchasing credits to the neutral merchant:

entering the amount of the purchasing credits recorded on the intelligent card:

entering the amount of the purchasing credits recorded in the neutral merchant terminal;

entering the amount of purchase credits decremented from the intelligent card:

20       entering the amount of purchase credits decremented from the neutral merchant terminal:

recording new purchasing credit balances on the intelligent card:

recording new purchasing credit balances on the neutral merchant terminal:

transferring the net value of the purchasing credits to a central clearinghouse by the neutral merchant terminal:

- 5       having a central clearinghouse receive and pay funds to neutral merchants based on the net value of purchasing credits transferred.

16. A system, comprising:

a cash register;

- 10       entry means in the cash register for entering an amount corresponding to a price of a product into the cash register and for entering an amount corresponding to cash being paid;

calculating means in the cash register for determining existence of an excess cash payment;

- 15       card identifier entering means for entering a card identifier, said card identifier identifying one or a plurality of predetermined accounts;

apportioning means responsive to said register and said card identifier entering means for apportioning at least a part of the excess cash payment among a number of predetermined accounts identified with said card; and

- 20       said accounts being identified independent of data in the register.

17. A system as in claim 16, wherein said cash register includes change making means for returning remains from an excess payment, after apportionment, as cash.

5 18. A system as in claim 17, wherein said cash register includes a display for displaying the excess cash and the remains.

19. A system as in claim 37, wherein said printout means prints out the status of each of the accounts.

20. A system as in claim 15, wherein said card identifier entering means includes means for entering changes in the apportionment.

10 21. A system as in claim 15, wherein said apportioning means includes means for allocating a portion of the excess to charity donee accounts with each apportionment.

15 22. A system as in claim 21, wherein said apportioning means includes means for transferring the portion of the excess for the charity donee account directly to the charity donee with each apportionment.

23. A system as in claim 21, wherein said apportionment means includes:

charity storage means for storing names of a plurality of qualified charities;

20 bank storage means for storing names of a number of banks;

account storage means for storing numbers of client accounts;

entry means for entering the names of charities and banks so as to establish and entered name for each entry of a name;

comparison means responsive to said storage means and said entry means for comparing each entered name with a stored name to determine if the entered name matches a stored name;

assignment means responsive to said comparison means for assigning a charity or a bank to an account when the charity or the bank has been entered;

recording means responsive to said account storage means for recording money entries into said accounts; and

allocating means responsive to said account storage means for registering an allocation of parts of monies recorded into accounts among the charities and banks entered for that account.

24. An apportionment system, comprising:

deducting means for deducting a cost of an item from a payment received to determine an excess;

charity storage means for storing the names of a plurality of qualified charities;

bank storage means for storing the names of a number of banks;

account storage means for storing numbers of client accounts;

entry means for entering names of charities and banks so as to

define an entered name for each entry of a name;

comparison means responsive to each of said storage means for comparing the entered names with the stored names to determine if the entered name matches a stored name;

5                   assignment means responsive to said comparison means for assigning a charity or a bank to an account when a client has selected the charity or the bank;

recording means for responsive to each of said account storage means recording money entries into said accounts; and

10                   allocating means responsive to said deducting means and said account storage means for registering an allocation of parts of the excess, after deduction of the cost, among the charities and banks entered for that account;

15                   each of said storage means, entry means, comparison means, assignment means, and recording means, being independent of said deducting means.

25: A point of sale operating method, comprising:

entering an amount corresponding to a price of a product into a cash register;

entering an amount corresponding to cash being paid;

20                   determining any excess cash payment;

entering a card identifier;

apportioning at least a part of the excess cash payment among one or more of a number of predetermined accounts as determined by the card identifier; and

crediting the excess paid to the accounts to the card identifier;

5 the predetermined accounts being identified with said card identifier independent of said cash register.

26: A system as in claim 25, wherein said apportioning step includes making change for returning any remains from the excess payment, after apportionment, as cash.

10 27: A system as in claim 26, wherein said printing step includes displaying the excess cash and the remains.

28: A method as in claim 25, wherein said printout step includes printing out the status of each of the accounts.

15 29: A method as in claim 25, wherein said step of apportioning includes entering changes in the apportionment.

30: A method as in claim 25, wherein said step of apportioning includes allocating a portion of the excess to charity donee accounts with each apportionment.

20 31: A method as in claim 30, wherein said apportioning step includes transferring a portion of the excess for the charity donee account directly to the charity donee with each apportionment.

32: A method as in claim 25, wherein said apportionment step

includes:

storing names of a plurality of qualified charities;

storing names of a number of banks;

storing number of client accounts;

5                   entering the names of charities and banks so as to define an entered name for each entry of a name;

                  comparing each entered with a stored name to determine if the entered name matches the stored name;

                  assigning a charity or bank to an account when a charity or bank  
10           has been entered;

                  recording money entries into set accounts;

                  registering an allocation of parts of monies recorded into accounts among charities and banks entered for that account.

33. A system as in claim 16, wherein said apportioning means  
15           includes a central processor remote from the register for receiving the data from the card identifier entering means.

34. A system as in claim 16, wherein said card identifier entering means includes receiving means for receiving a card having the number and data including the accounts and instructions for apportioning, and said apportioning  
20           means further includes means for receiving the data from the card.

35. A system as in claim 34, wherein said apportioning means



includes a central processor remote from the register for receiving the data from the card number entering means on a batch processing basis.

36. A system as in claim 33, wherein central processor remote from the register serves for receiving the data from the card identifier entering means on a real time basis.

37. A system as in claim 16, further comprising printout means coupled to said register, said card entering means, and said apportioning means for printing out the amounts entered and apportioned.

38. A system as in claim 16, wherein the card identifies the relationship of apportioning among accounts independent of the of data in the cash register.

39. A method as in claim 25, wherein the relationship of apportionment among accounts is identified by the card identifier independent of data in the cash register.

40. A method as in claim 25, wherein further comprising the step of receiving the data from the card identifier entering means in a central processor remote from the register.

41. A method as in claim 25, wherein the step of entering includes receiving a card having the card identifier and data including the accounts and instructions for apportioning, and said apportioning step further includes receiving the data from the card.

42. A method as in claim 41, wherein said apportioning step includes receiving in a central processor remote from the register data entered from the card on a batch processing basis.

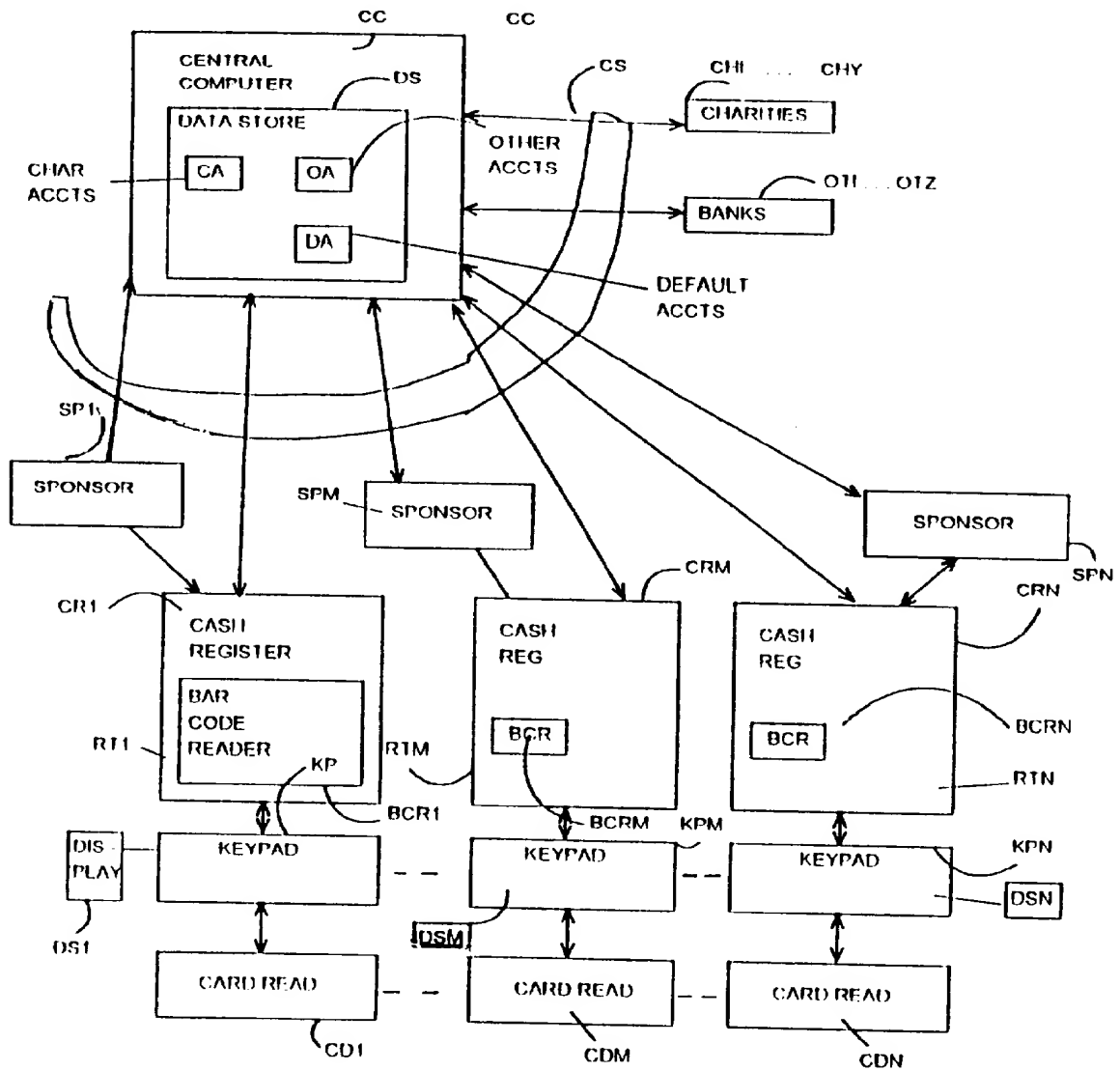
43. A method as in claim 42, wherein the step of receiving data from in the central processor remote from the register includes receiving the data from the card number entering means on a real time basis.

5 44. A method as in claim 31, further comprising the step of printing out the amounts entered and apportioned.

45. A method as in claim 41, wherein the card identifies the relationship of apportioning among accounts independent of data in the cash register.

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FIG. 1



RECTIFIED SHEET (RULE 91)

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FIG. 2

Transaction Card

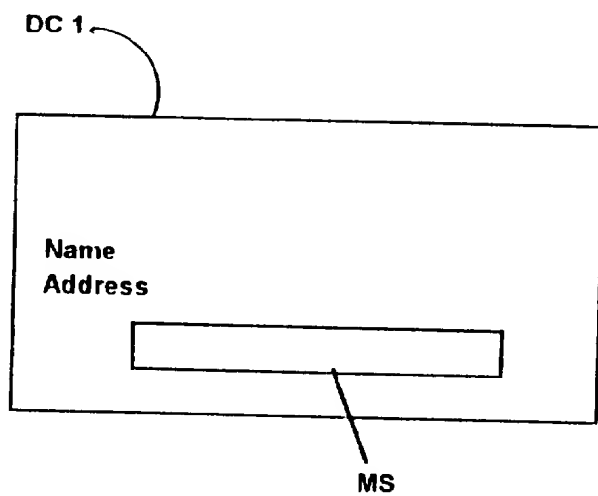
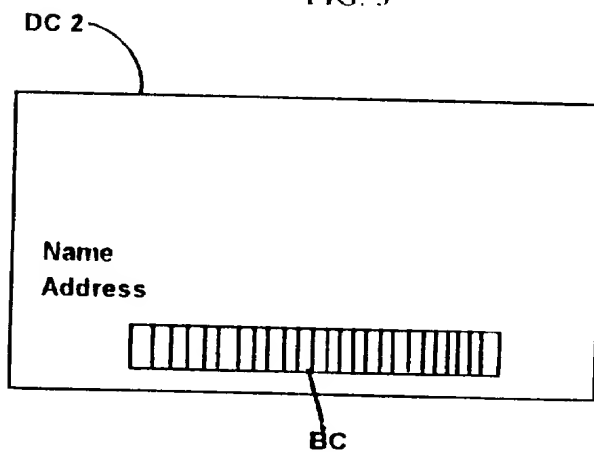
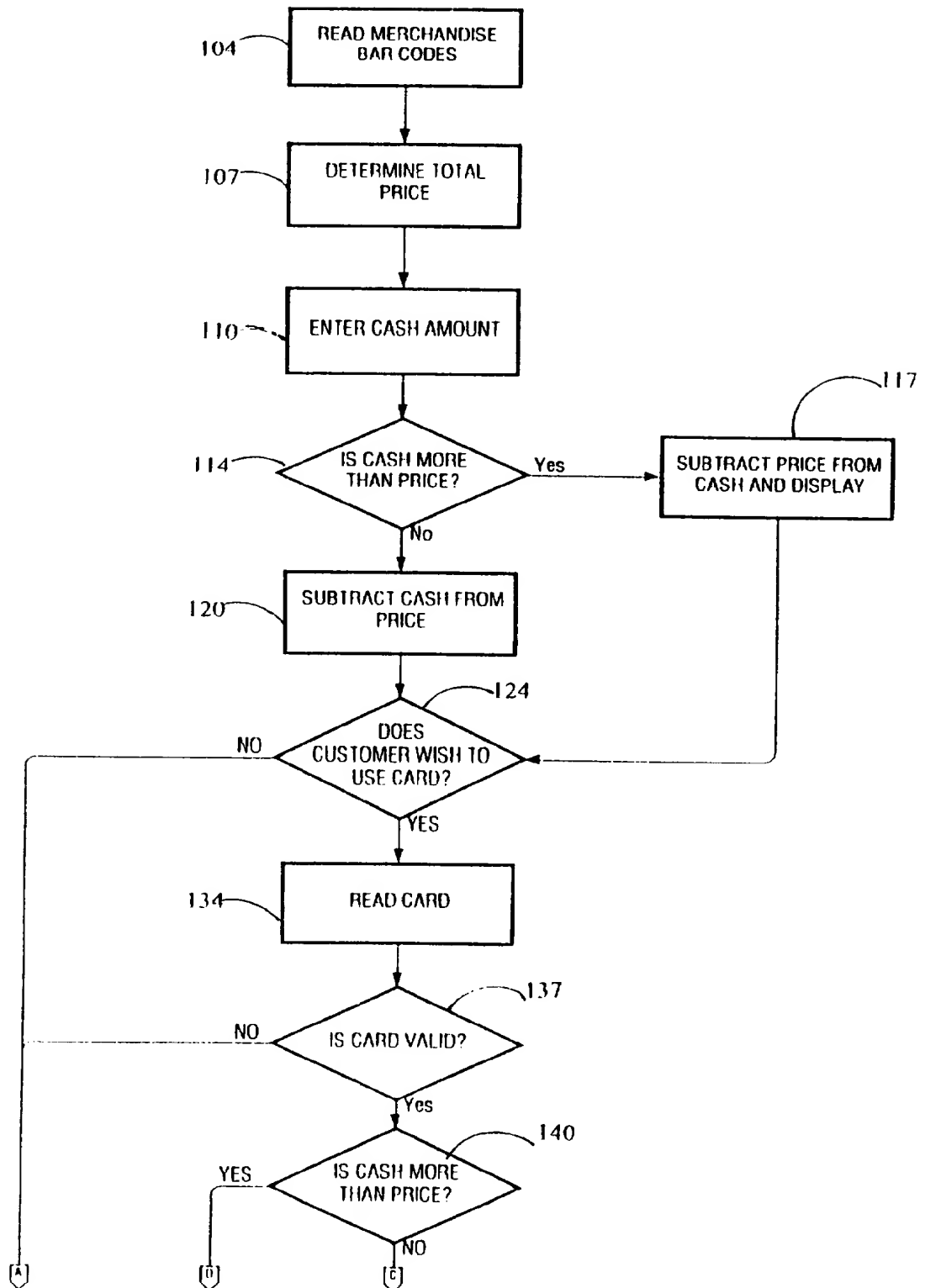


FIG. 3



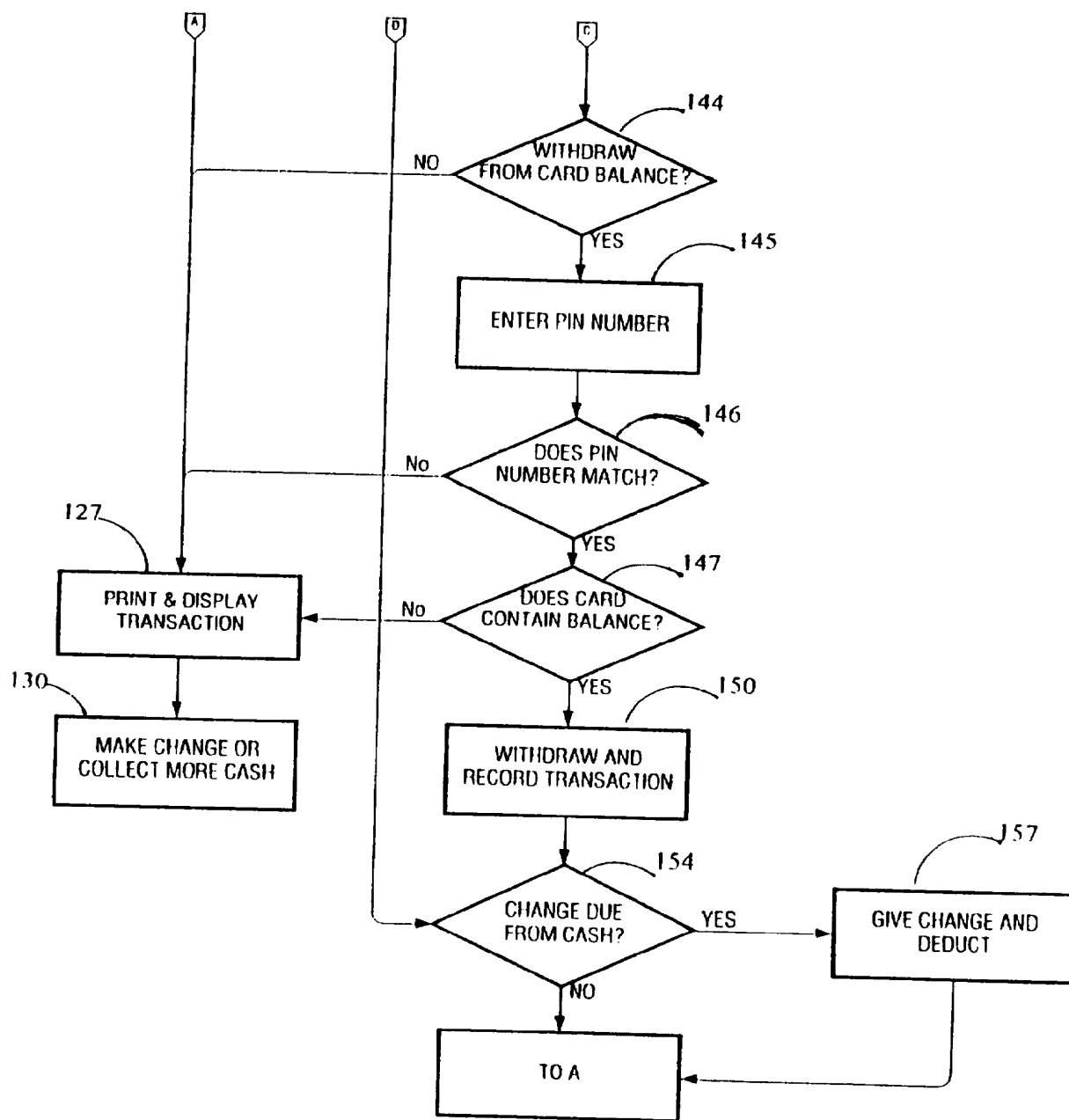
3/46

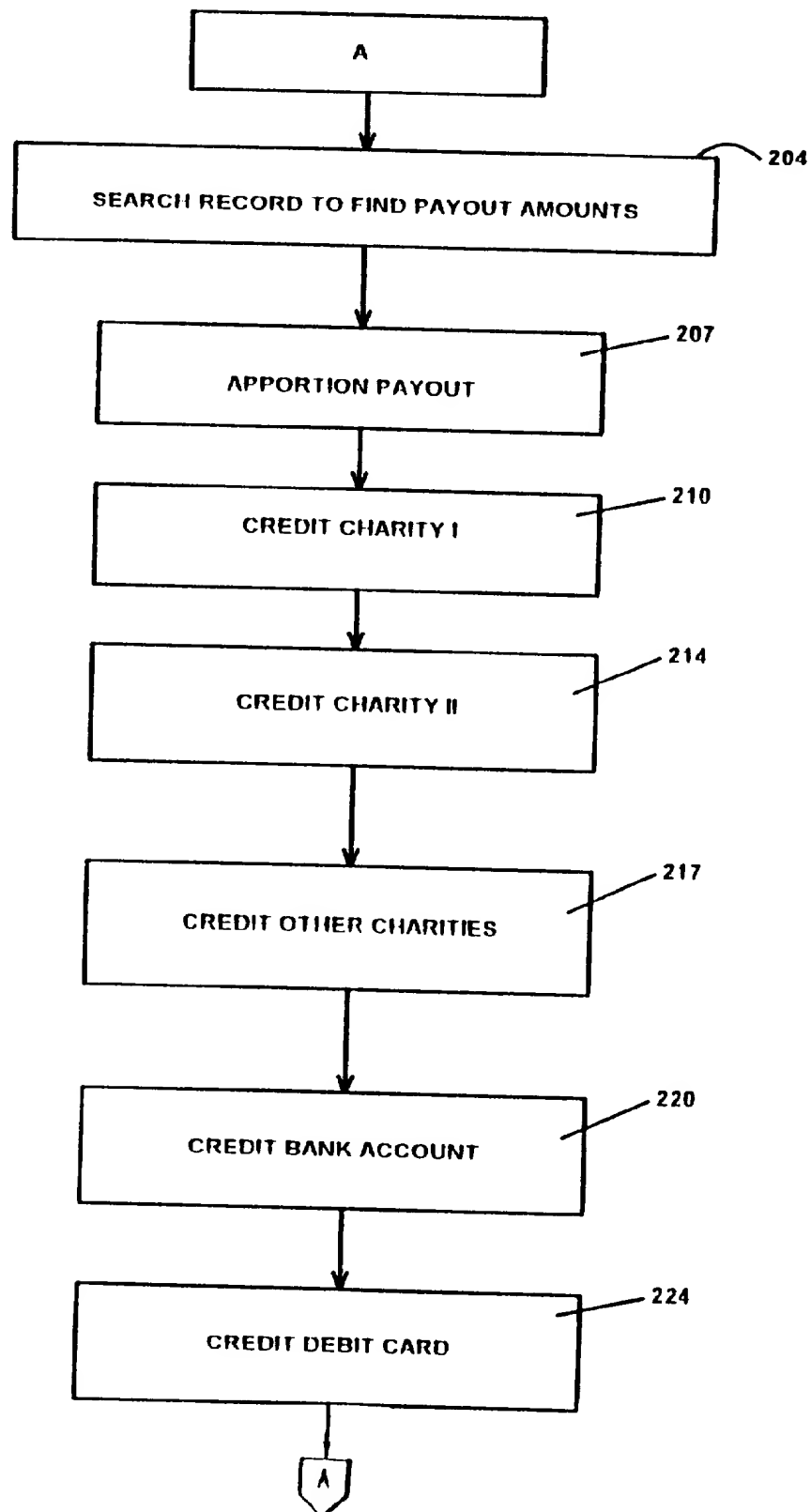
FIG. 4A



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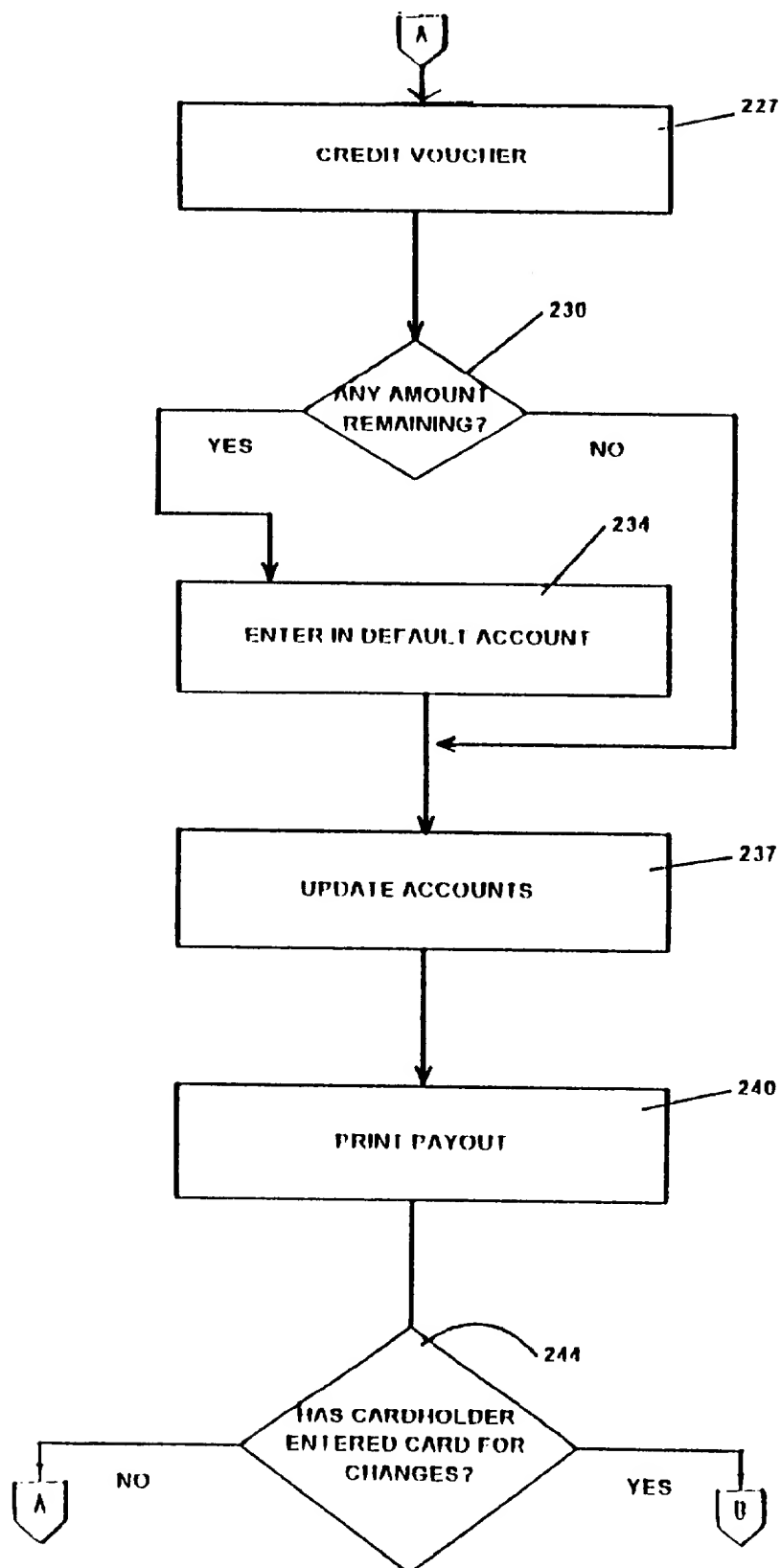
FIG. 4B



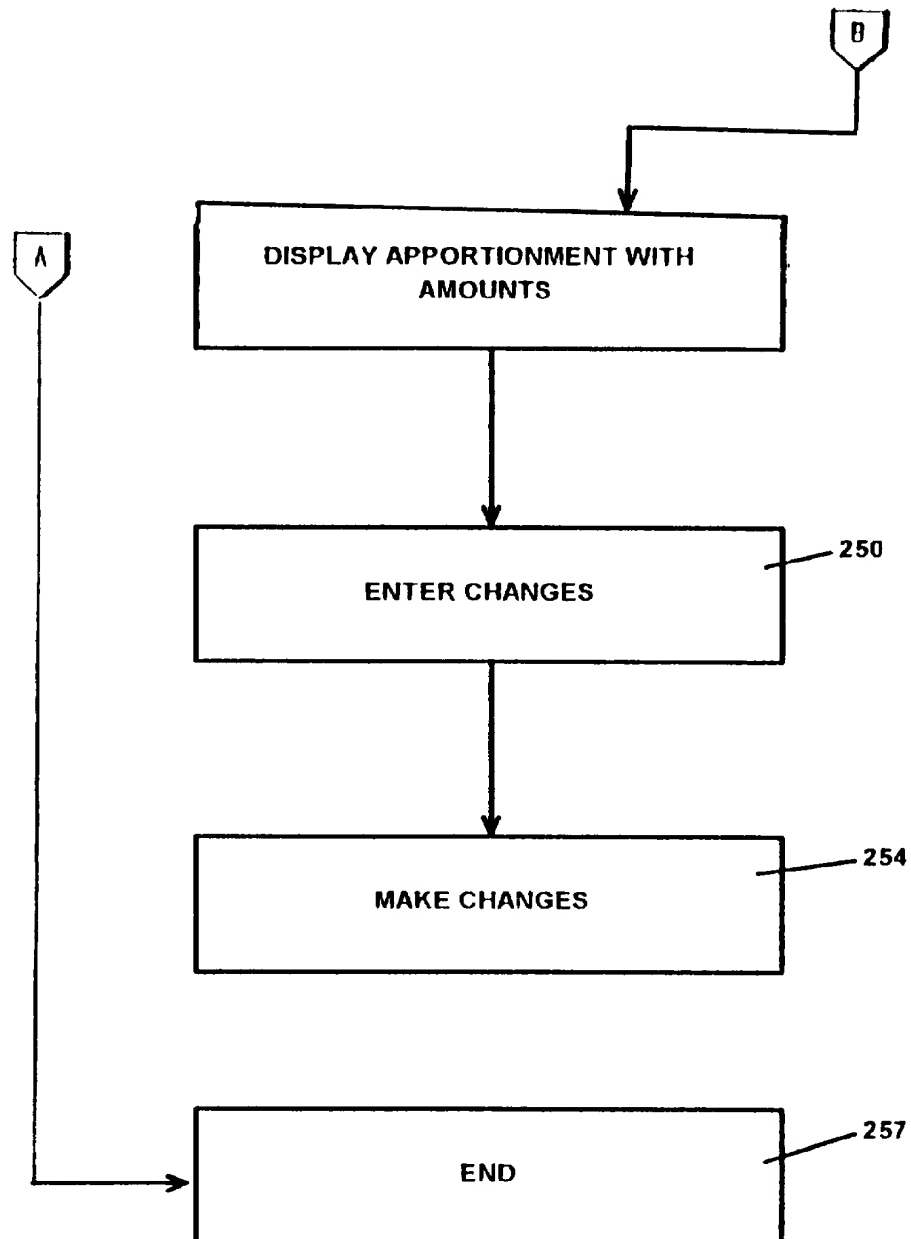
5/46  
FIG. 5A

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FIG. 5B



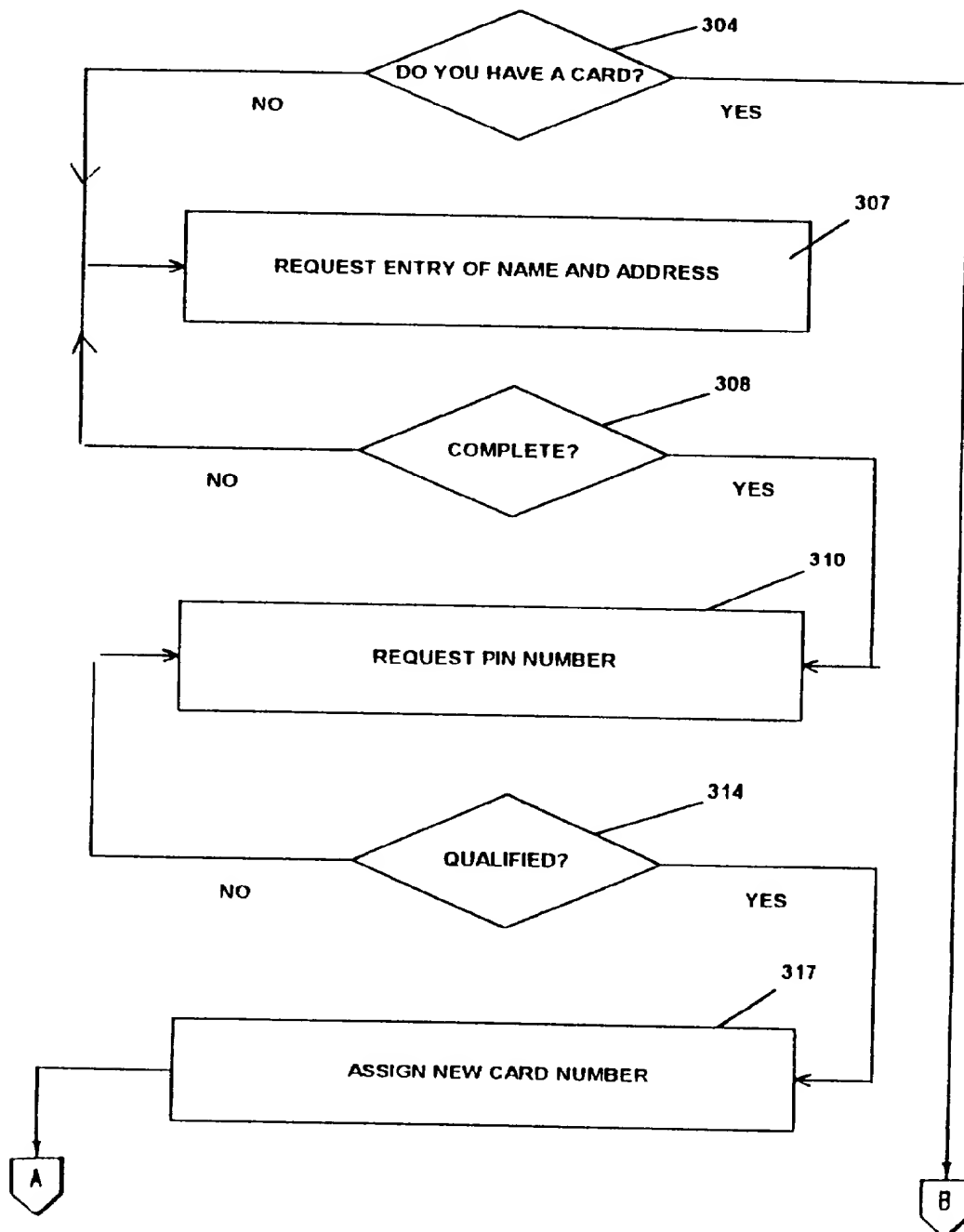


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FIG. 5C

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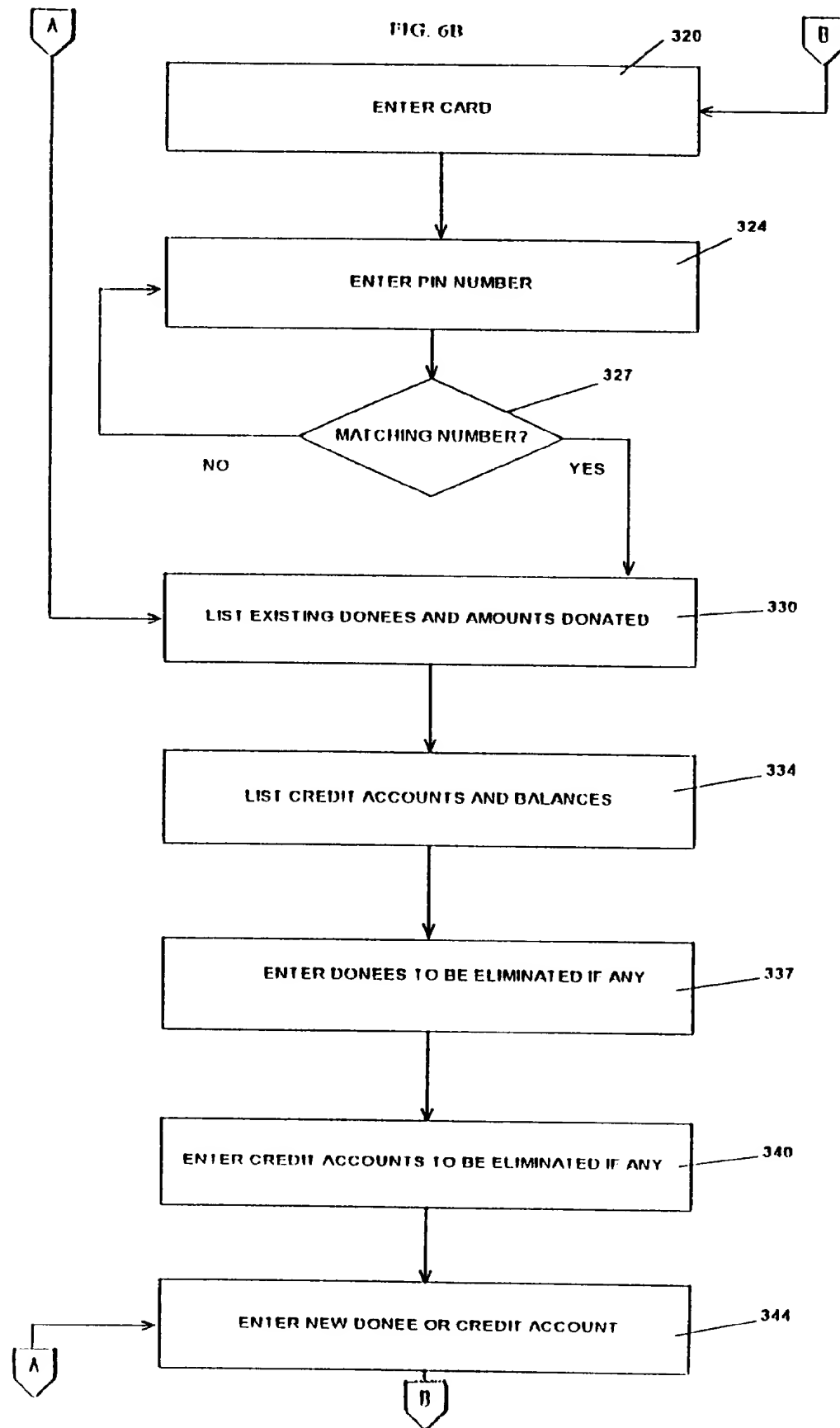
FIG. 6A

## ENTRIES TO OPEN OR REVISE ACCOUNT



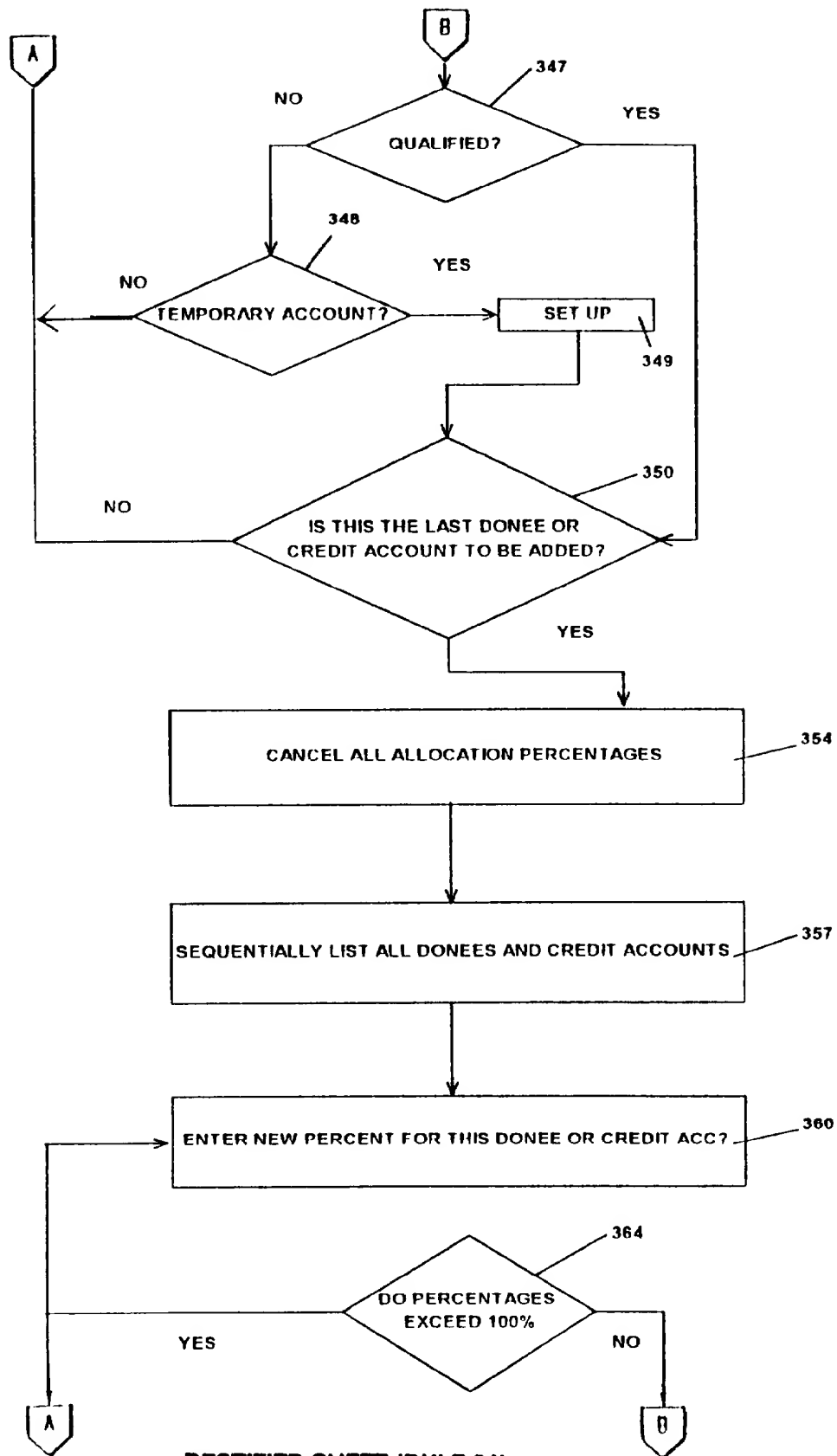
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FIG. 6B

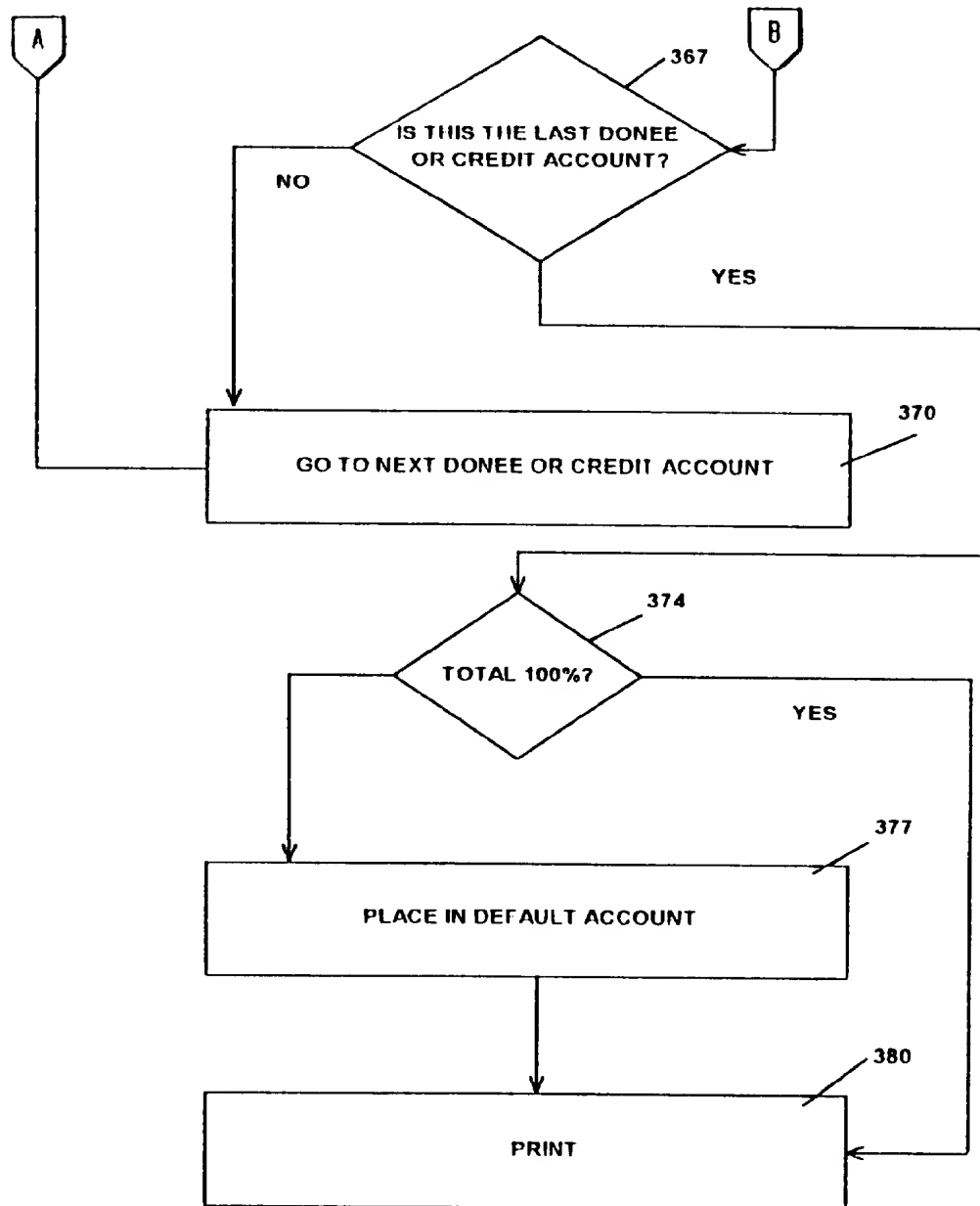


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FIG. 6C



RECTIFIED SHEET (RULE 91)

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FIG. 6D

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FIG. 7.1

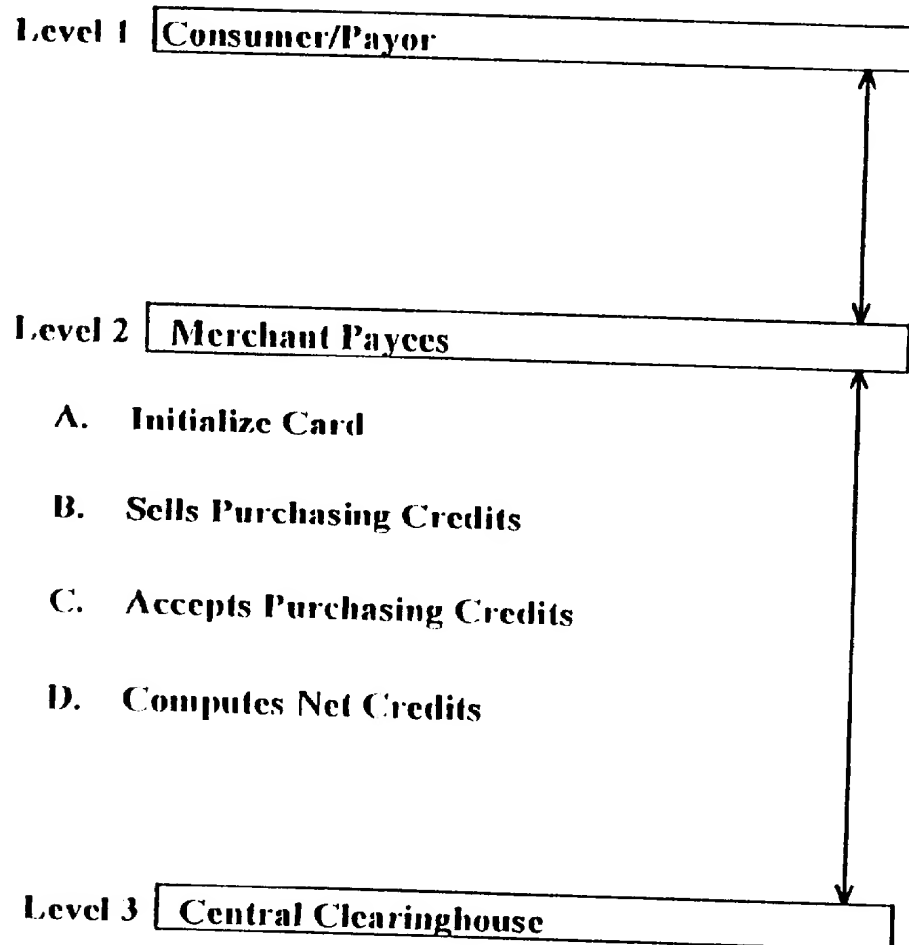
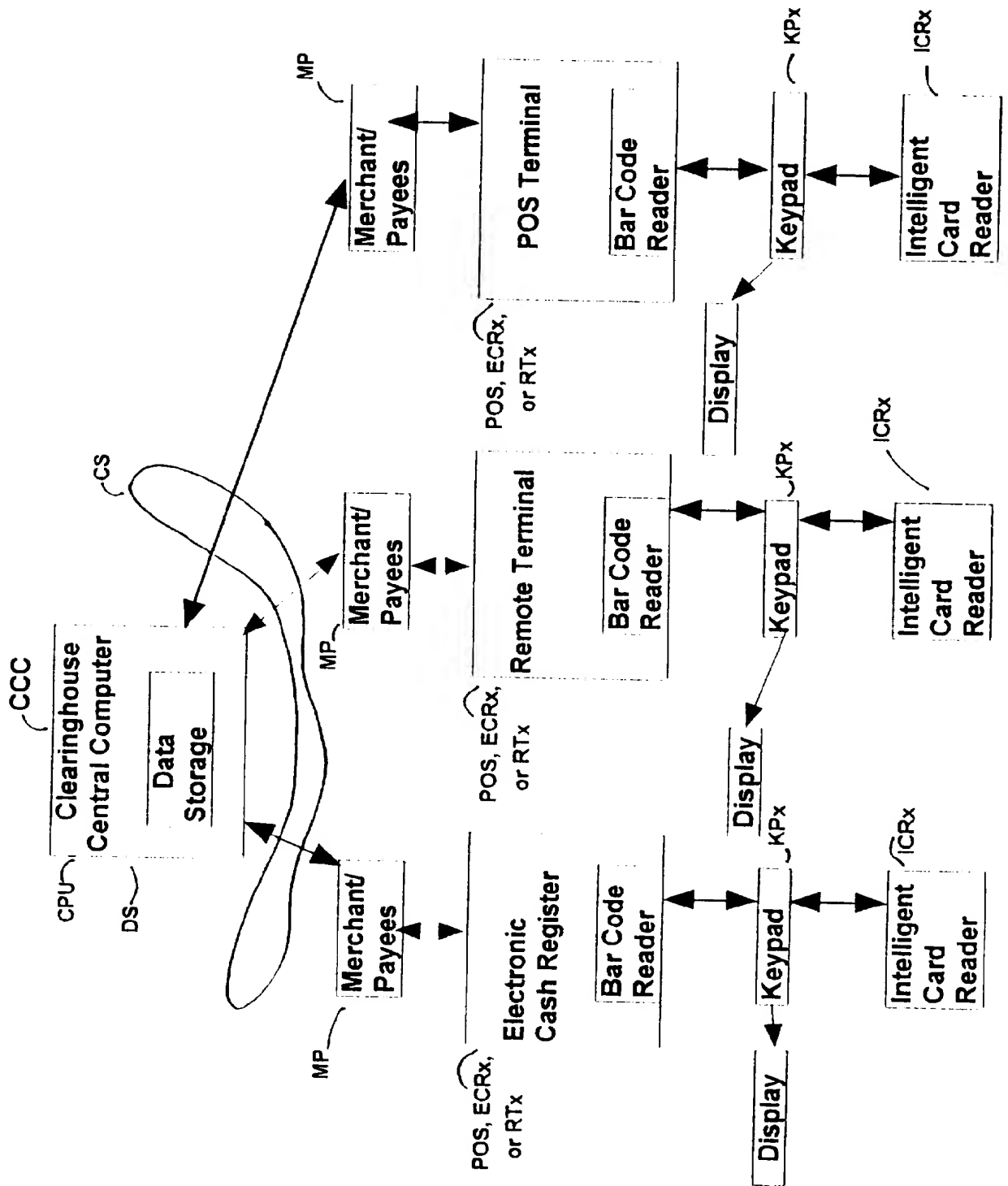


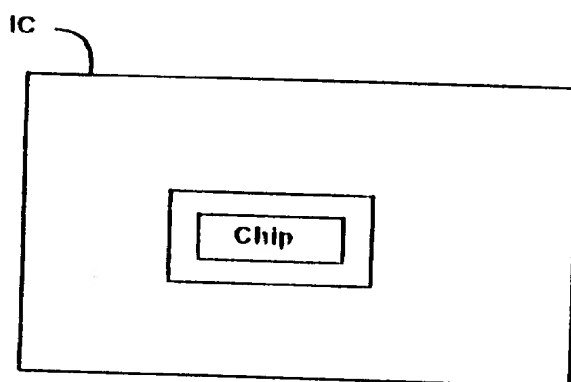
FIG. 7.2



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FIG. 7.3

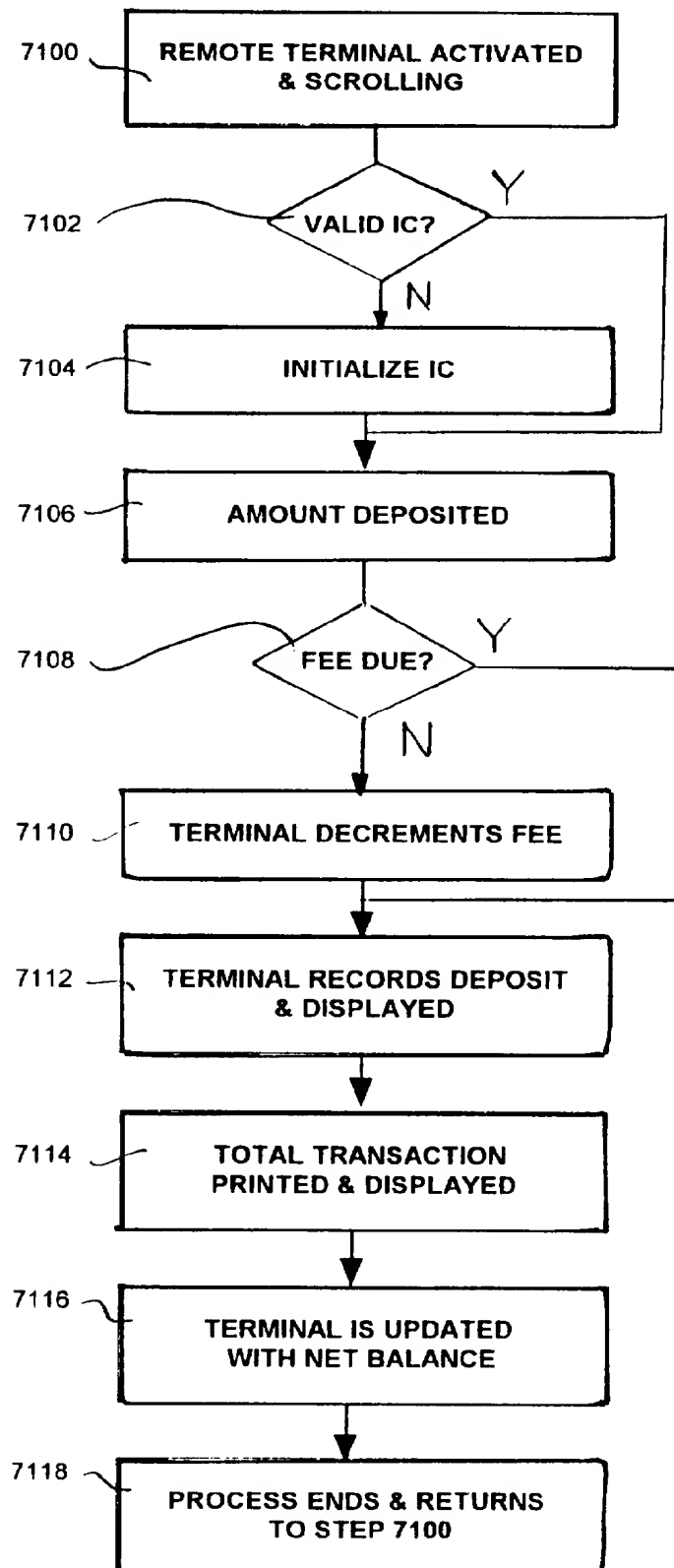
**Intelligent Card**





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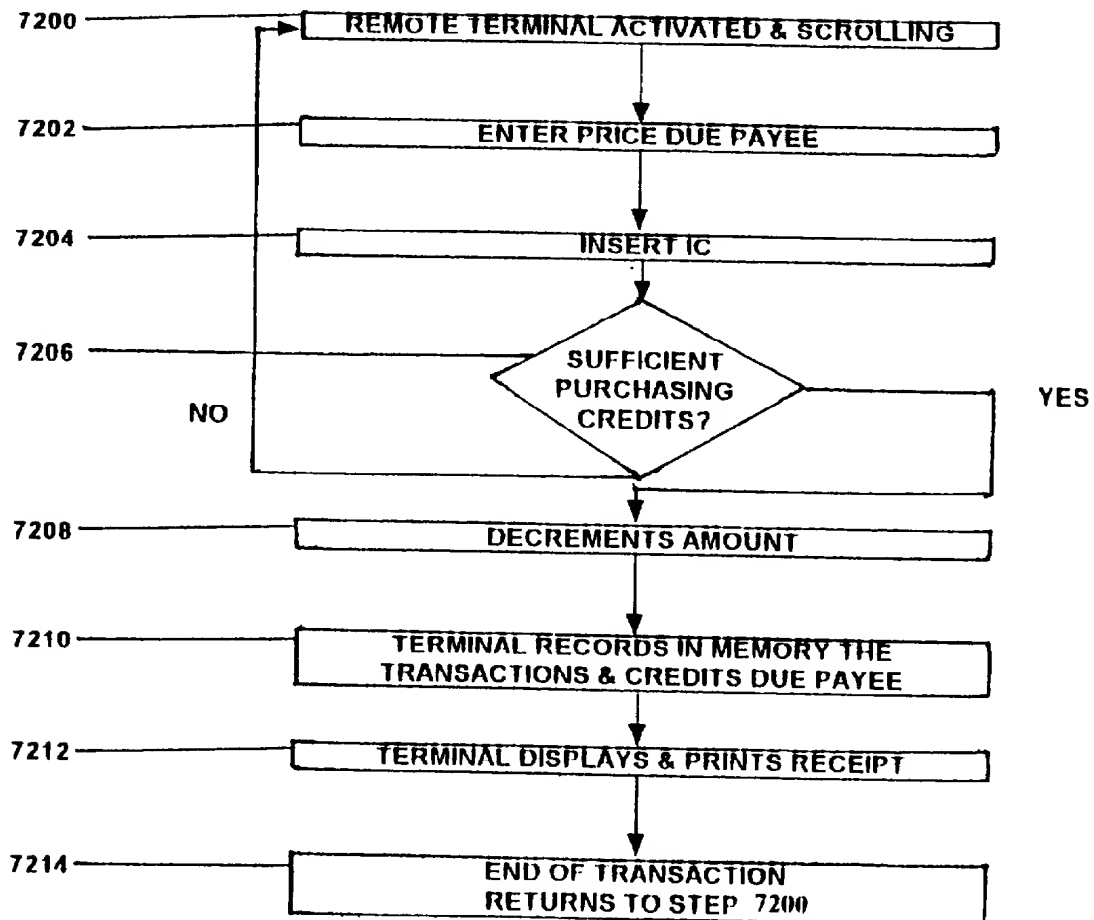
FIG. 7.4



RECTIFIED SHEET (RULE 91)

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FIG. 7.5



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FIG. 7.6

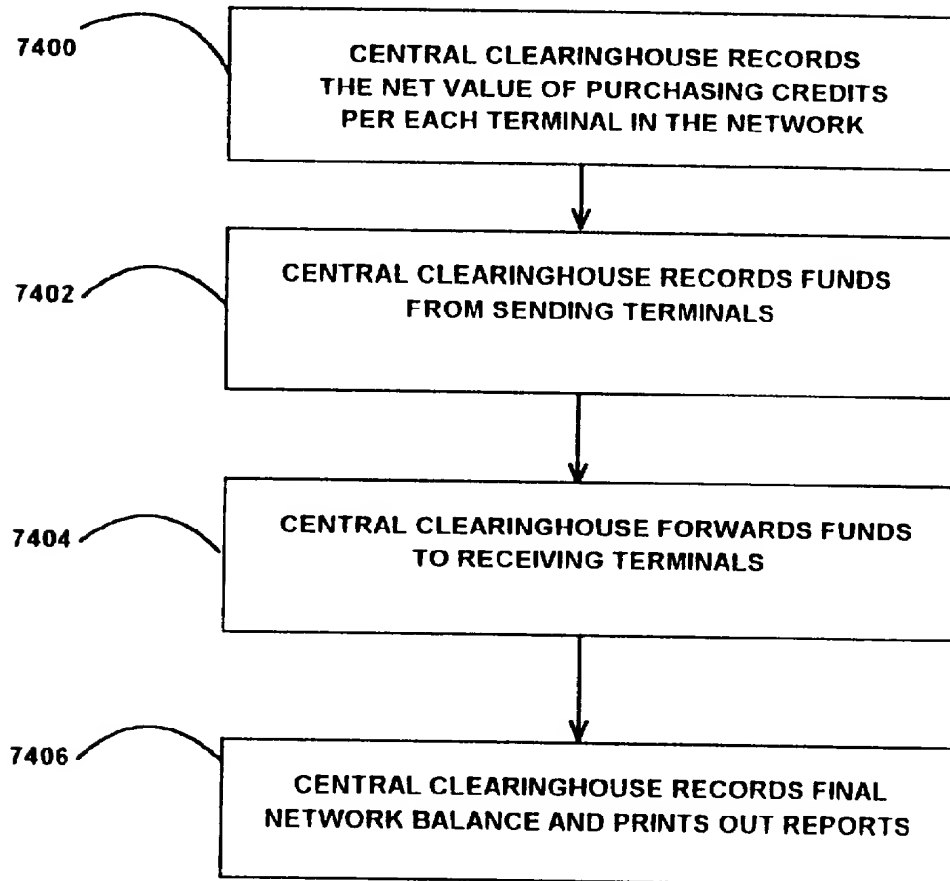
7300



CENTRAL CLEARINGHOUSE POLLS TERMINAL  
FOR NET VALUE OF PURCHASING CREDITS  
IN THE TERMINAL

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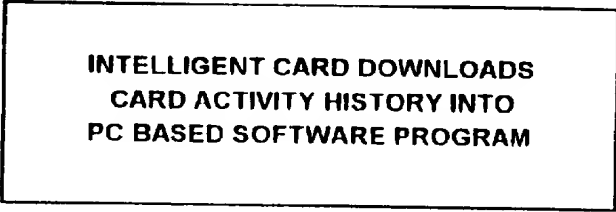
FIG. 7.7



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FIG. 7.8

7500

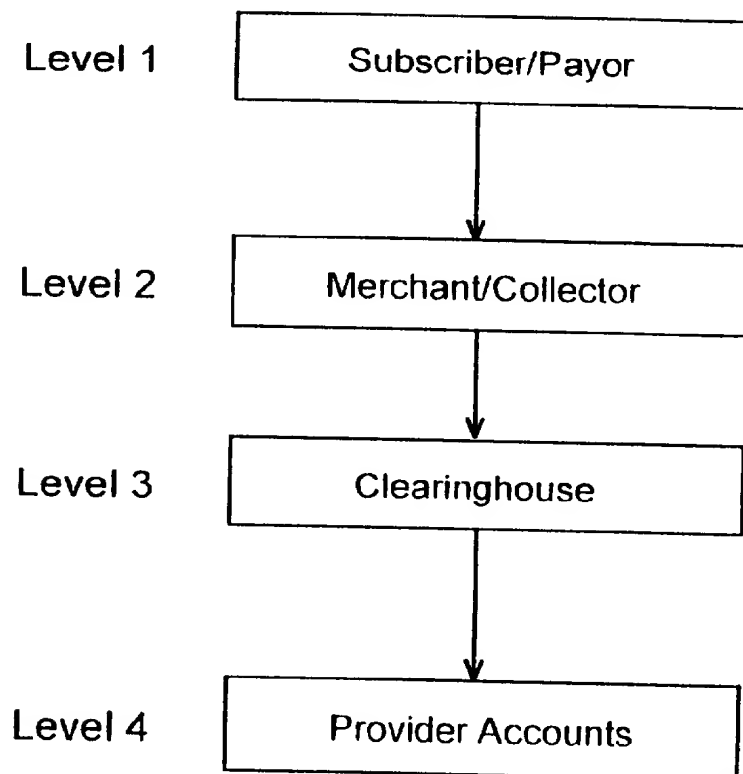


INTELLIGENT CARD DOWNLOADS  
CARD ACTIVITY HISTORY INTO  
PC BASED SOFTWARE PROGRAM

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FIG. 8.1A

## POS SYSTEM



# Clearinghouse Managed System (CMS)

FIG. 8.1B

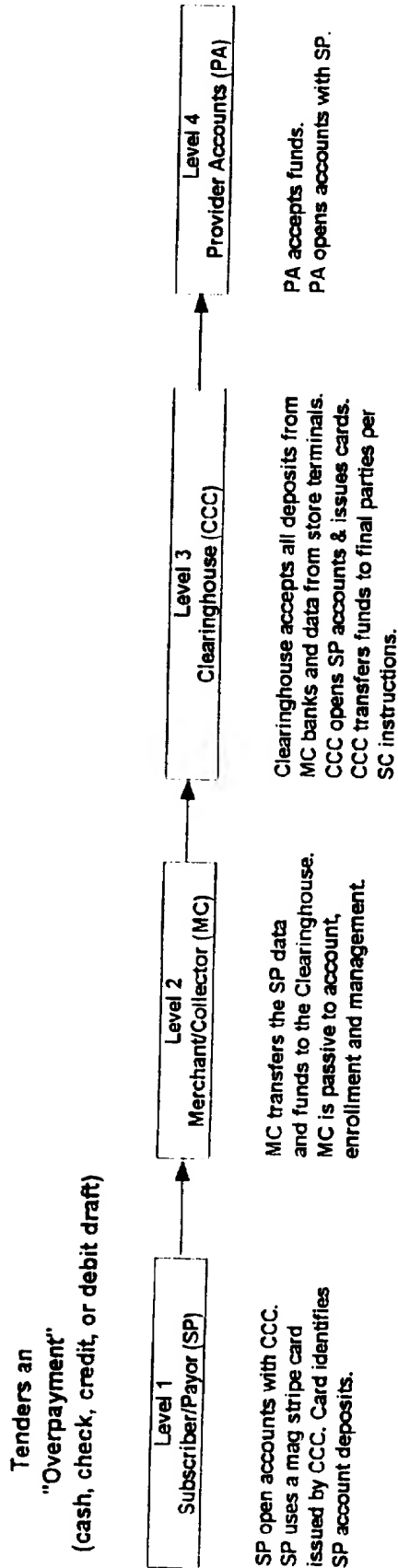
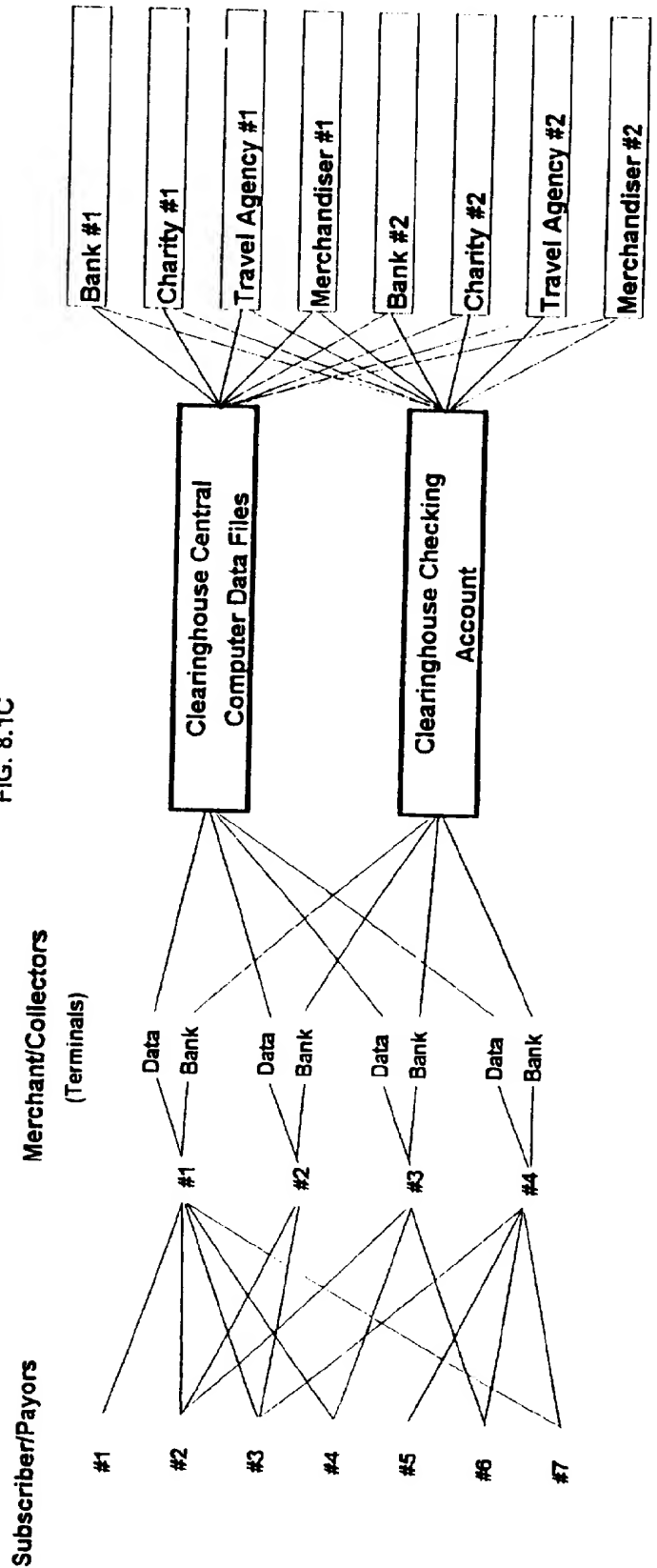


FIG. 8.1C



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# Provider Managed System (PMS)

FIG. 8.1D

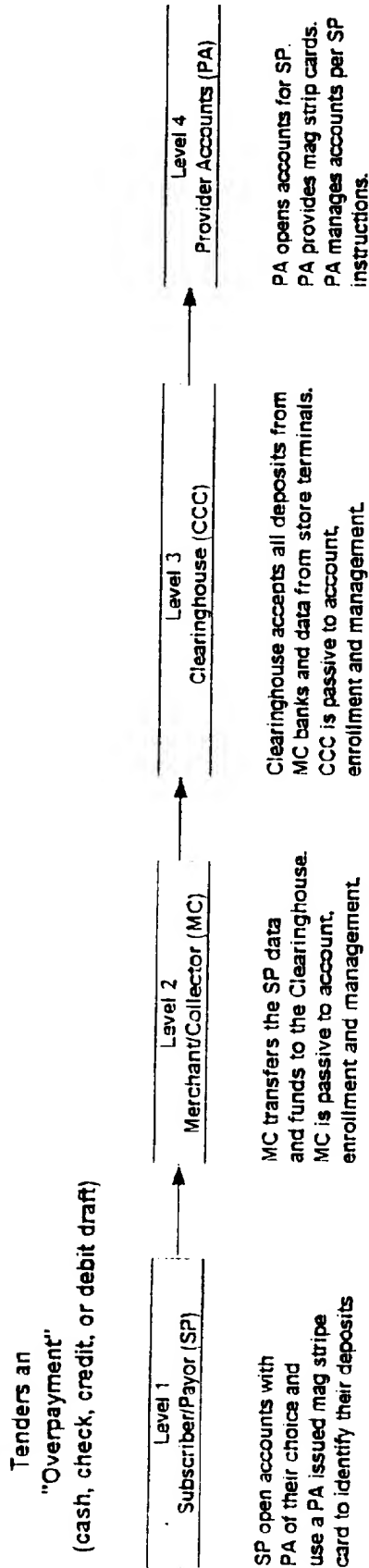
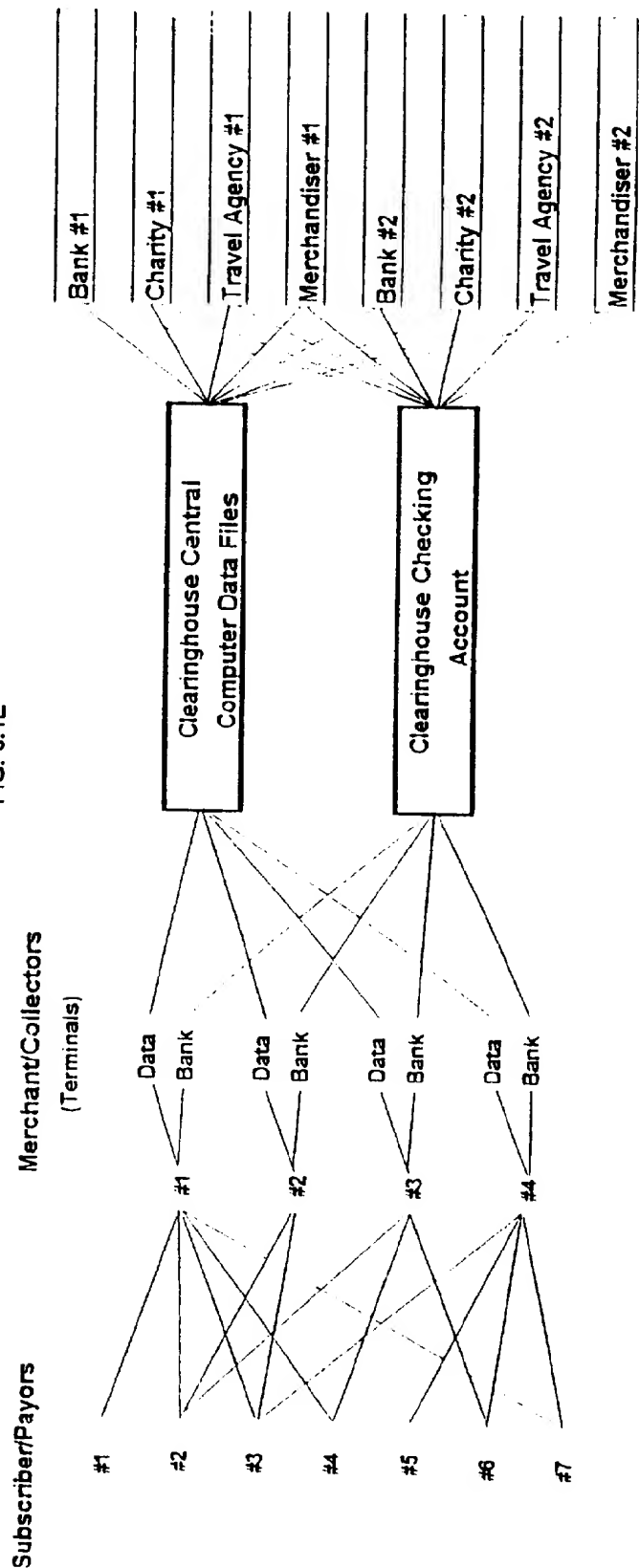


FIG. 8.1E





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FIG. 8.1F

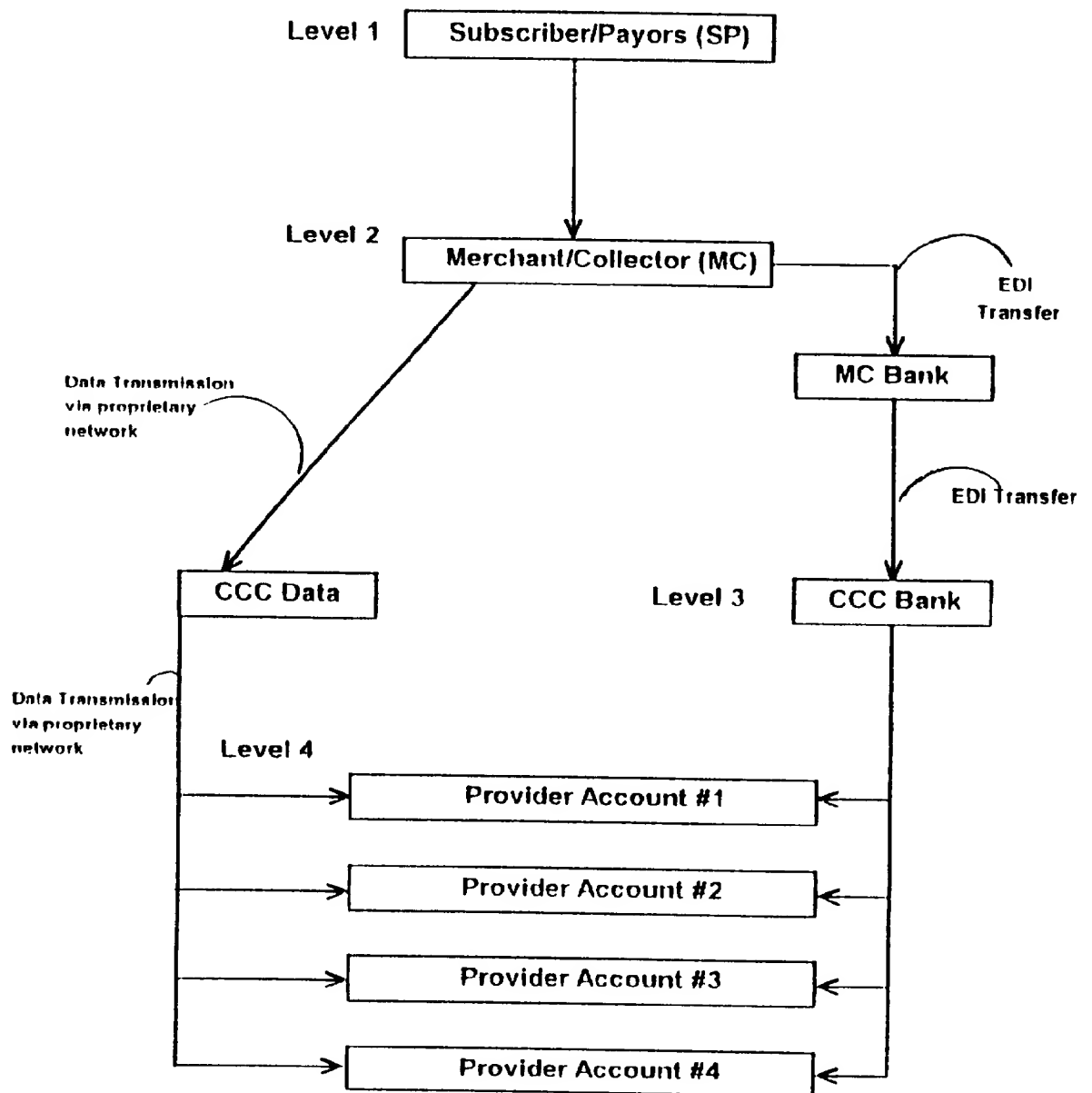
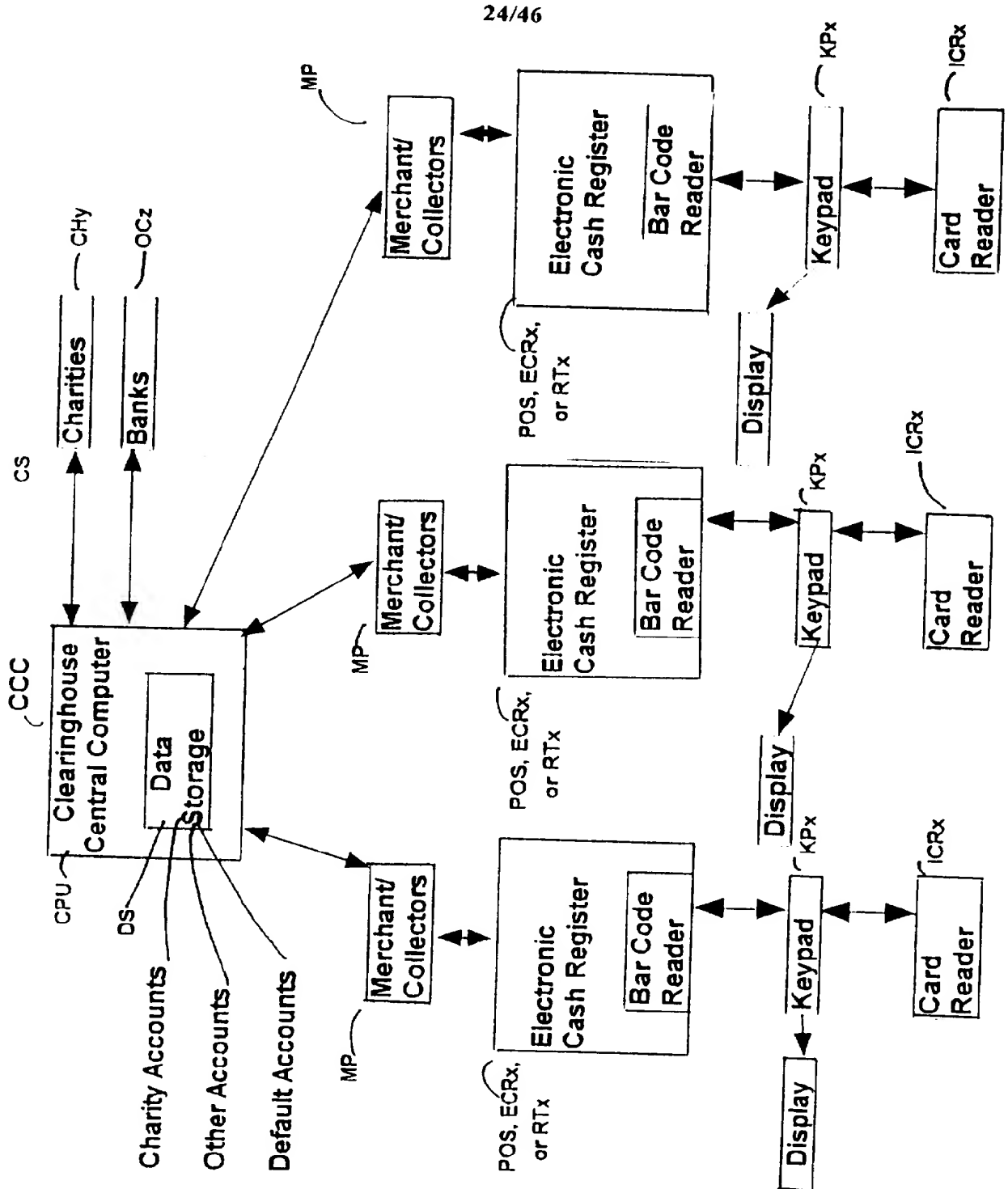
Data & Funds Transfer

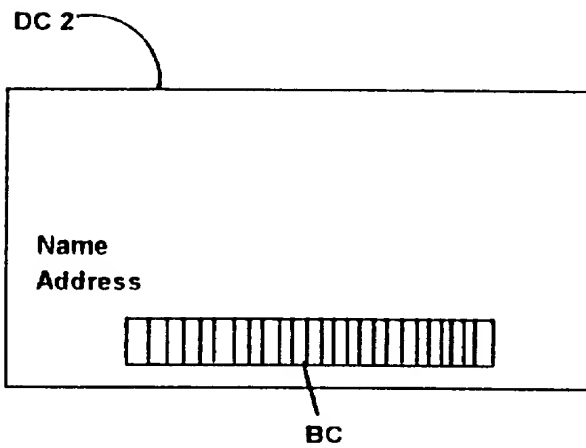
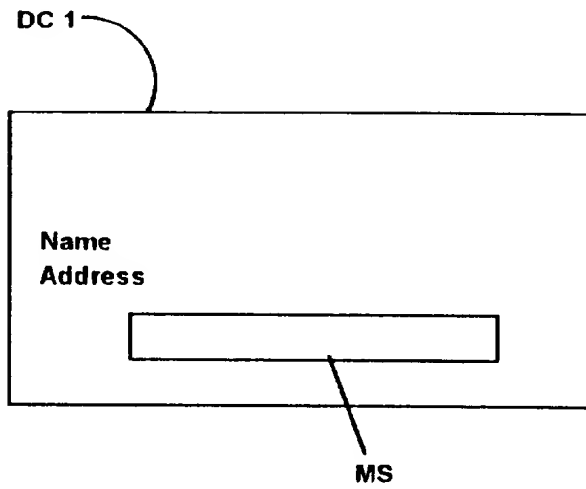
FIG. 8.2



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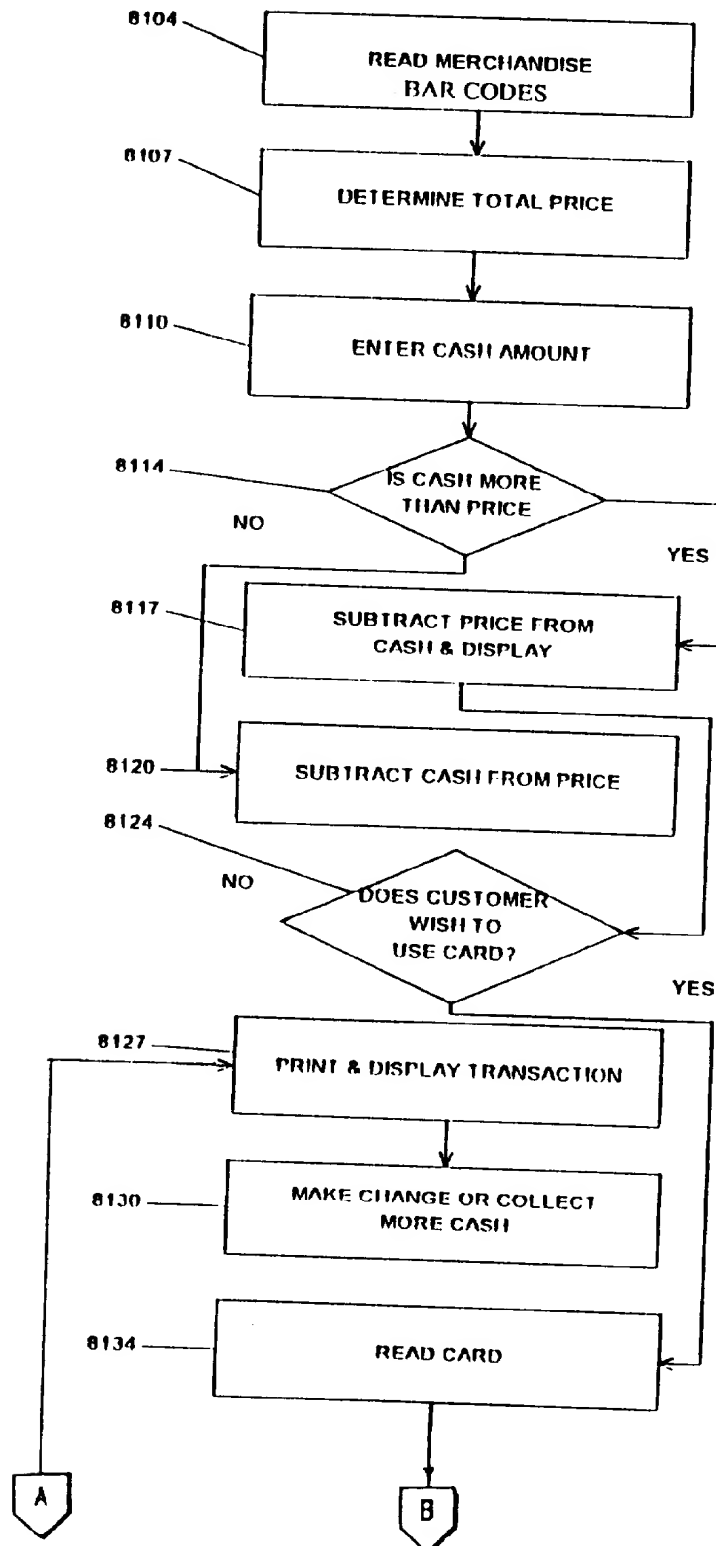
FIG. 8.3

Transaction Card



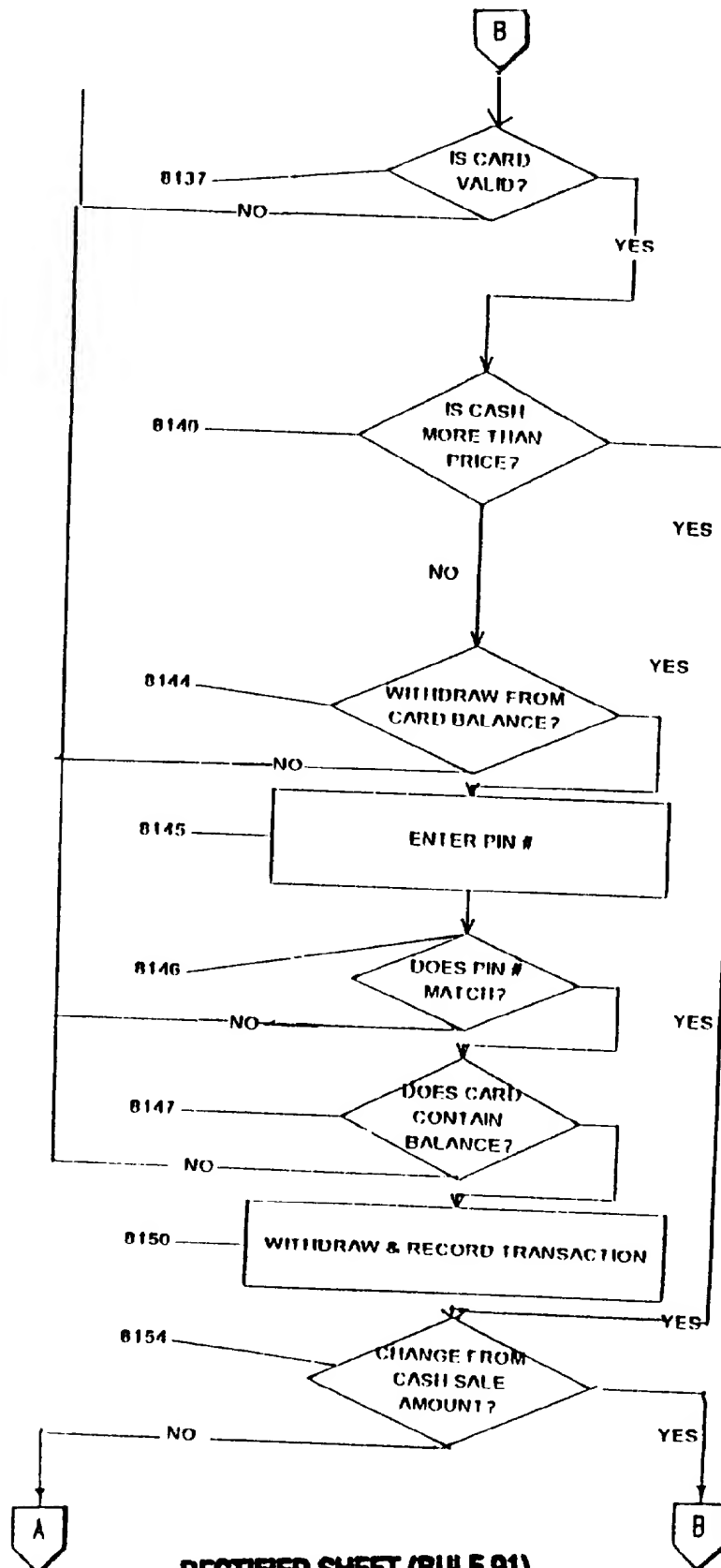
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FIG. 8.4A



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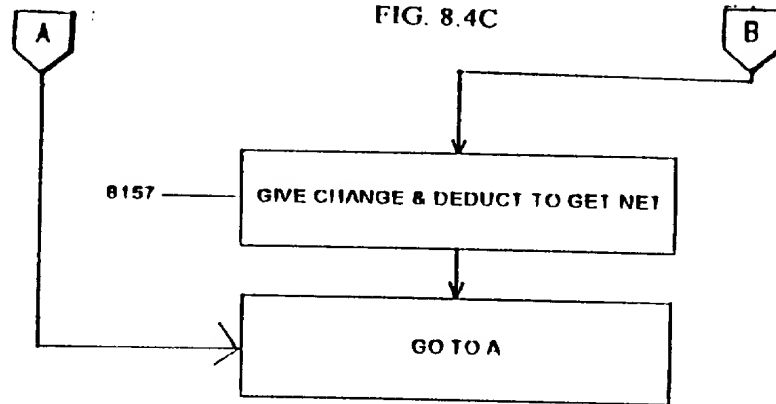
FIG. 8.4B



RECTIFIED SHEET (RULE 91)

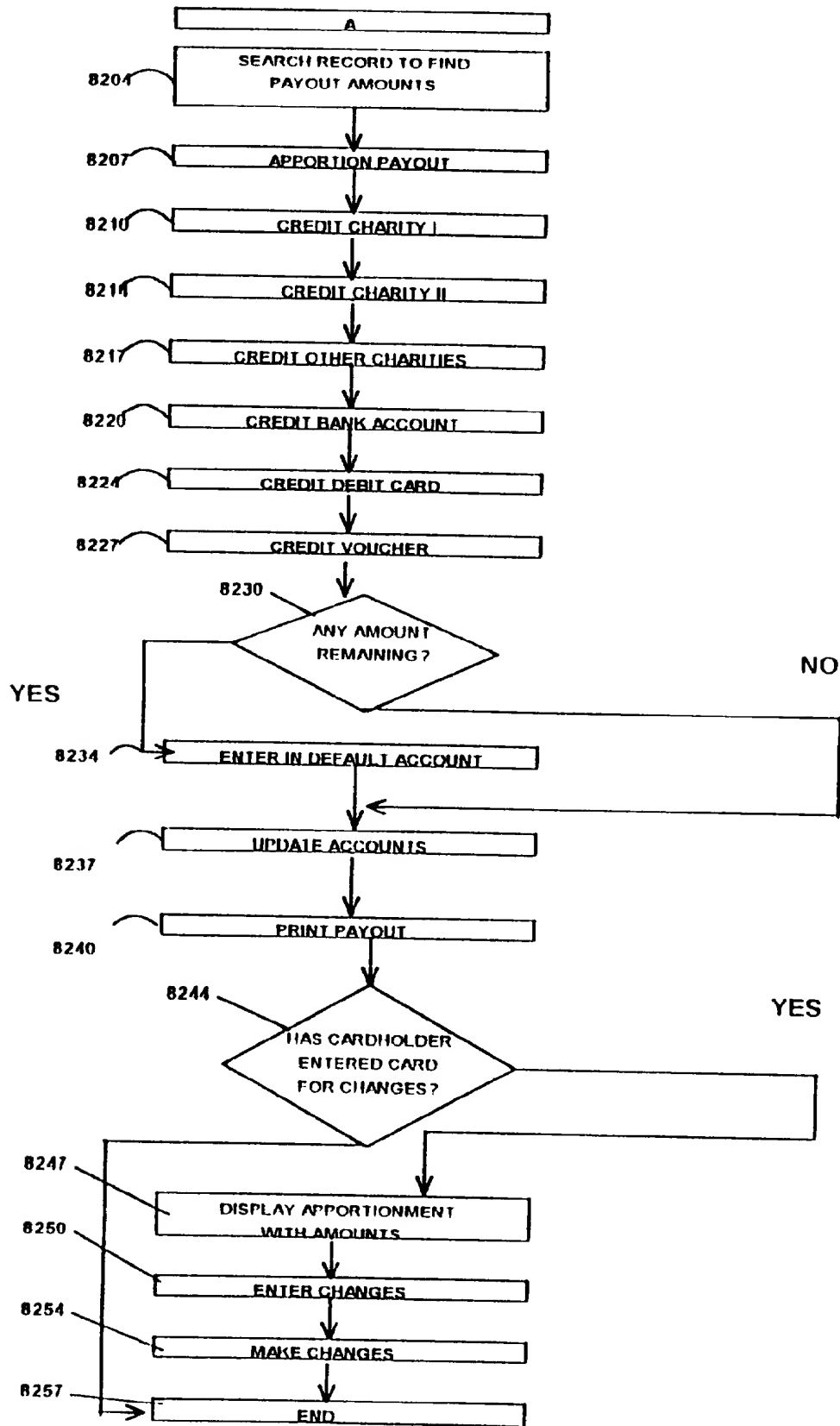
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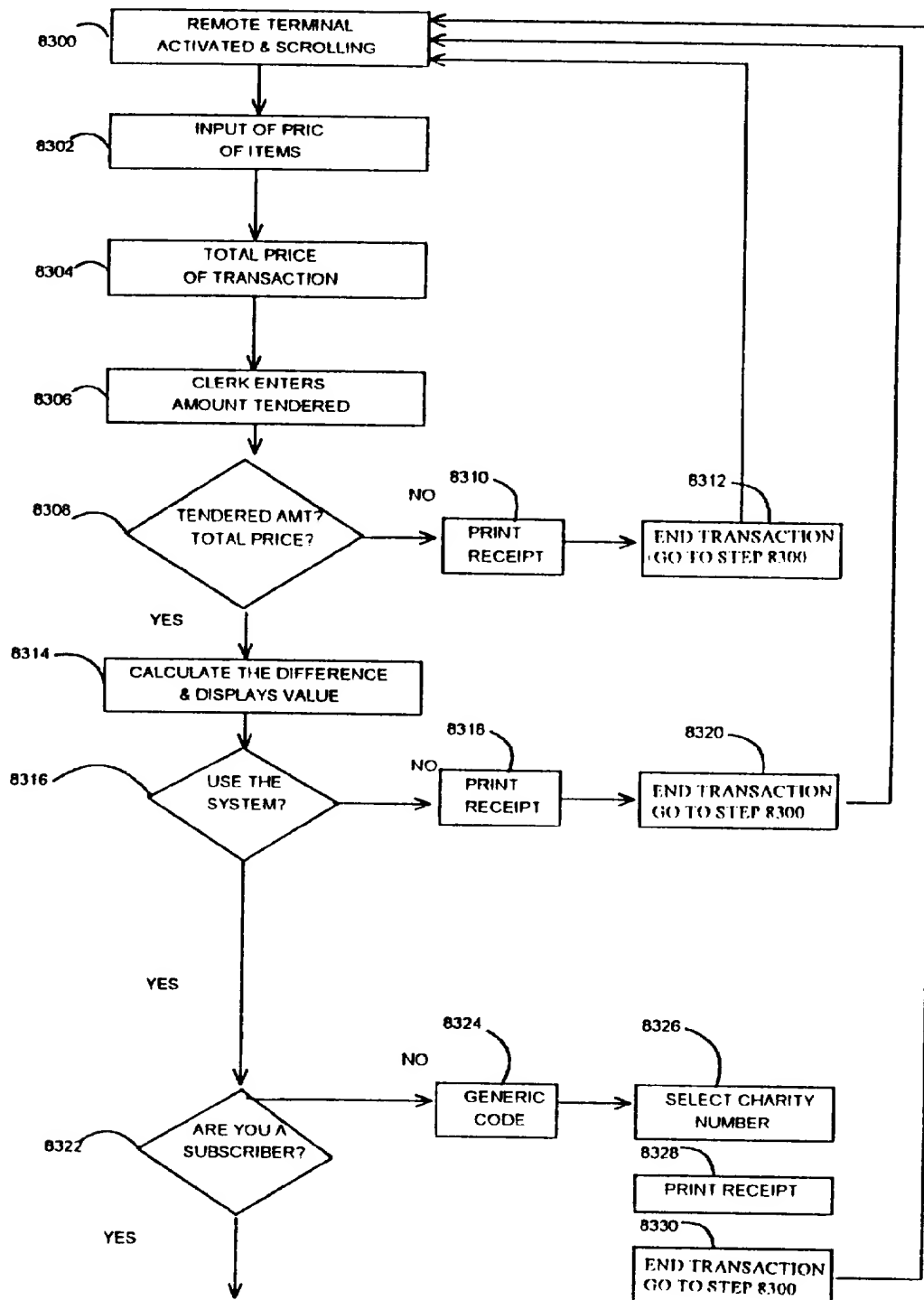
FIG. 8.4C



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FIG. 8.4D

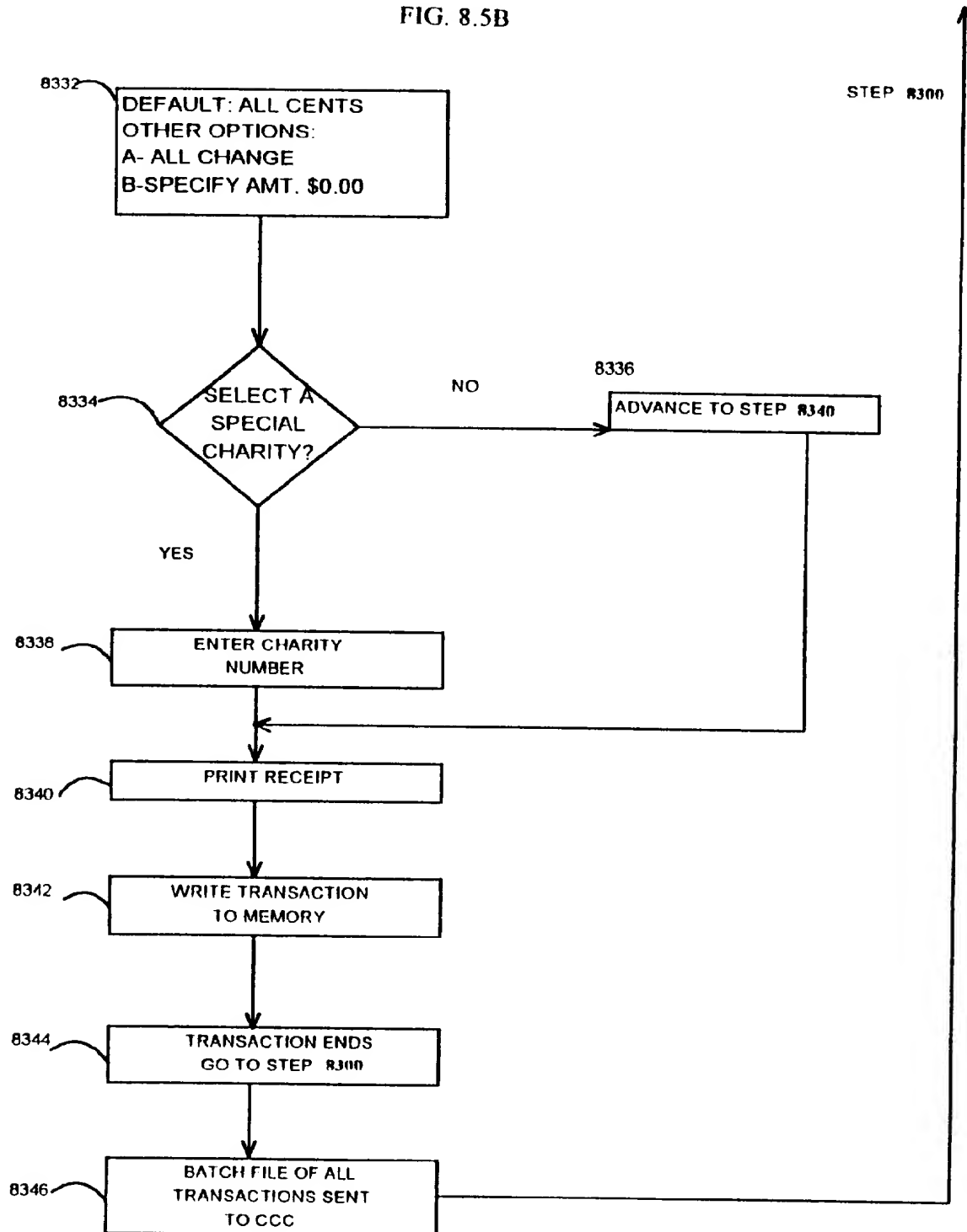


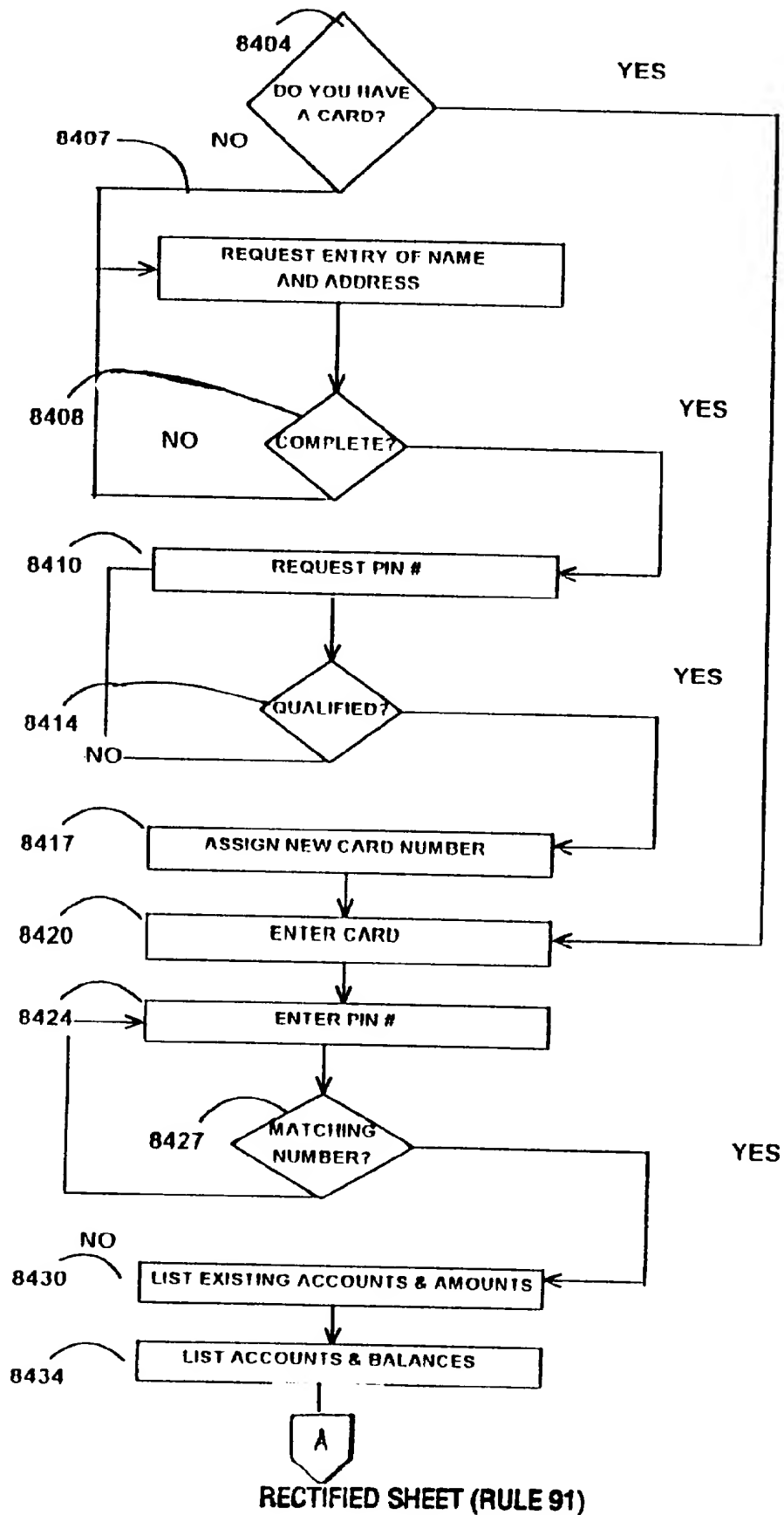
30/46  
FIG. 8.5A

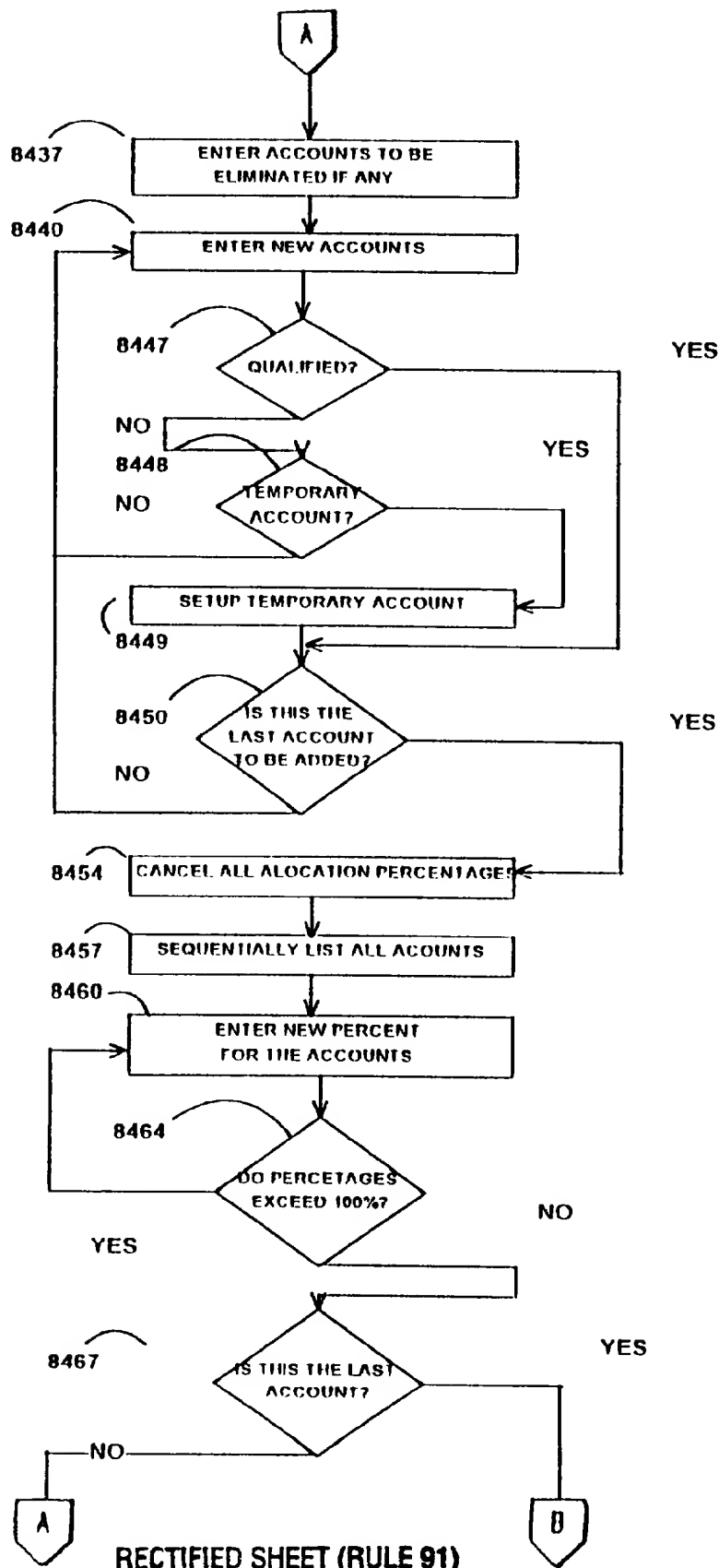


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FIG. 8.5B

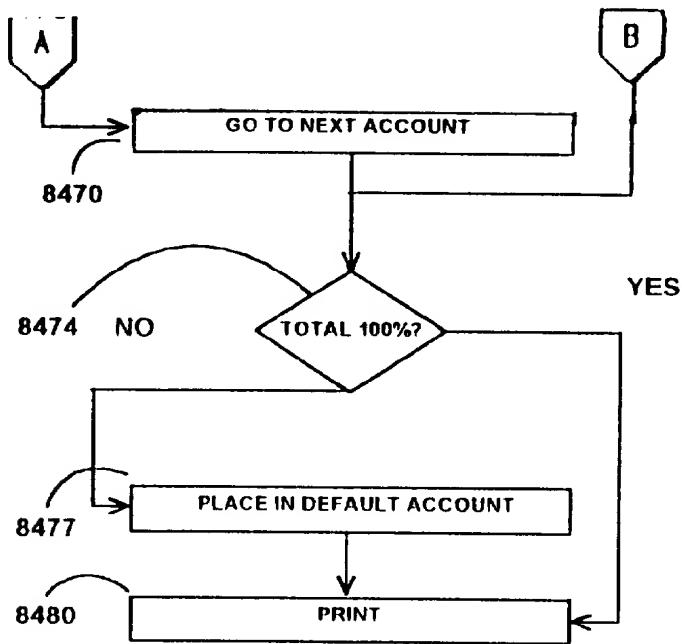


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FIG. 8.6A

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FIG. 8.6B

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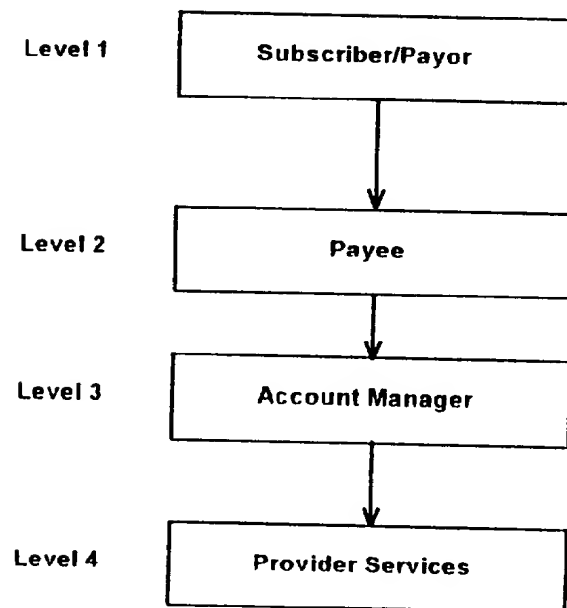
FIG. 8.6C



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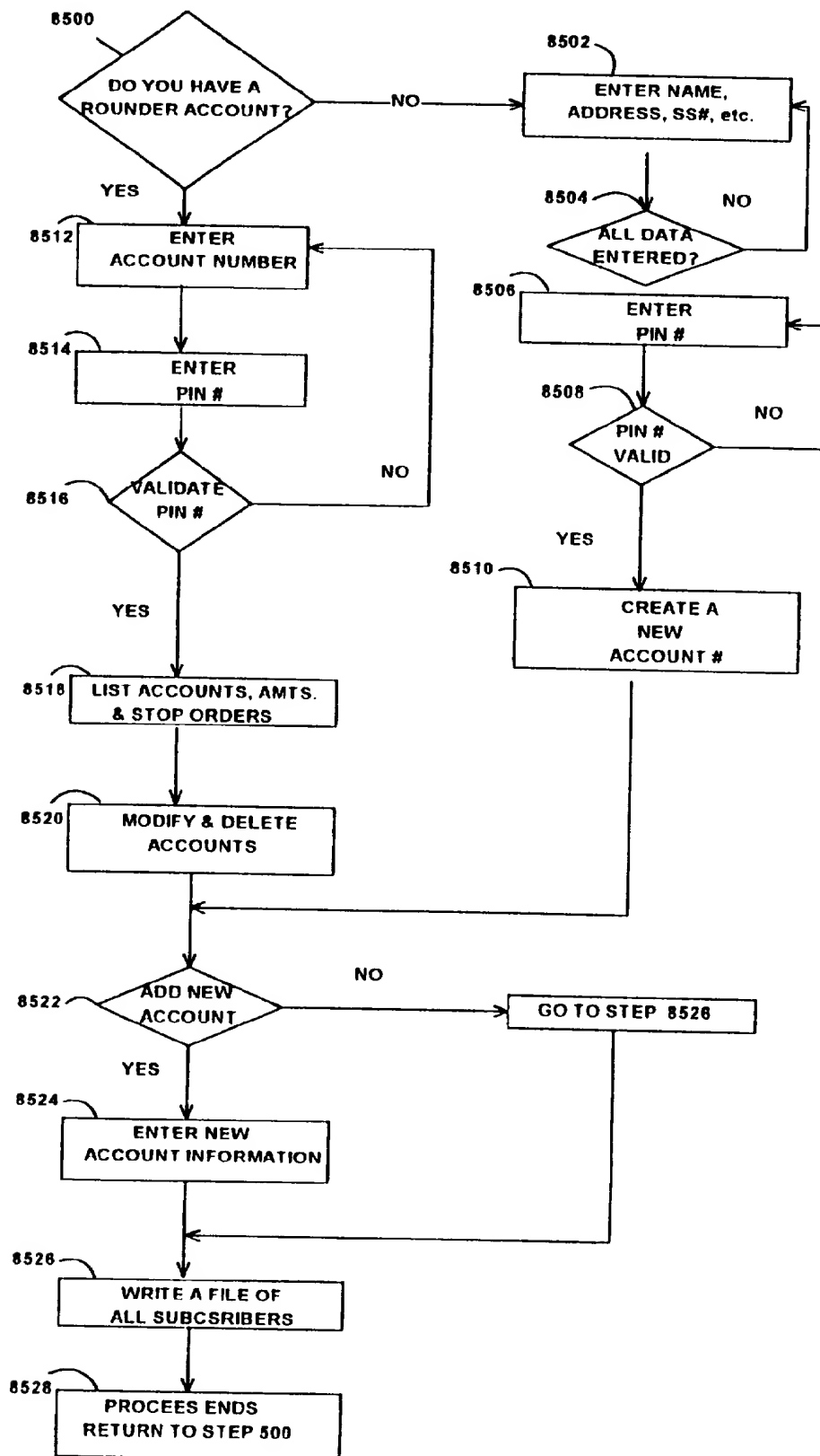
FIG. 8.7

## ROUNDER SYSTEM



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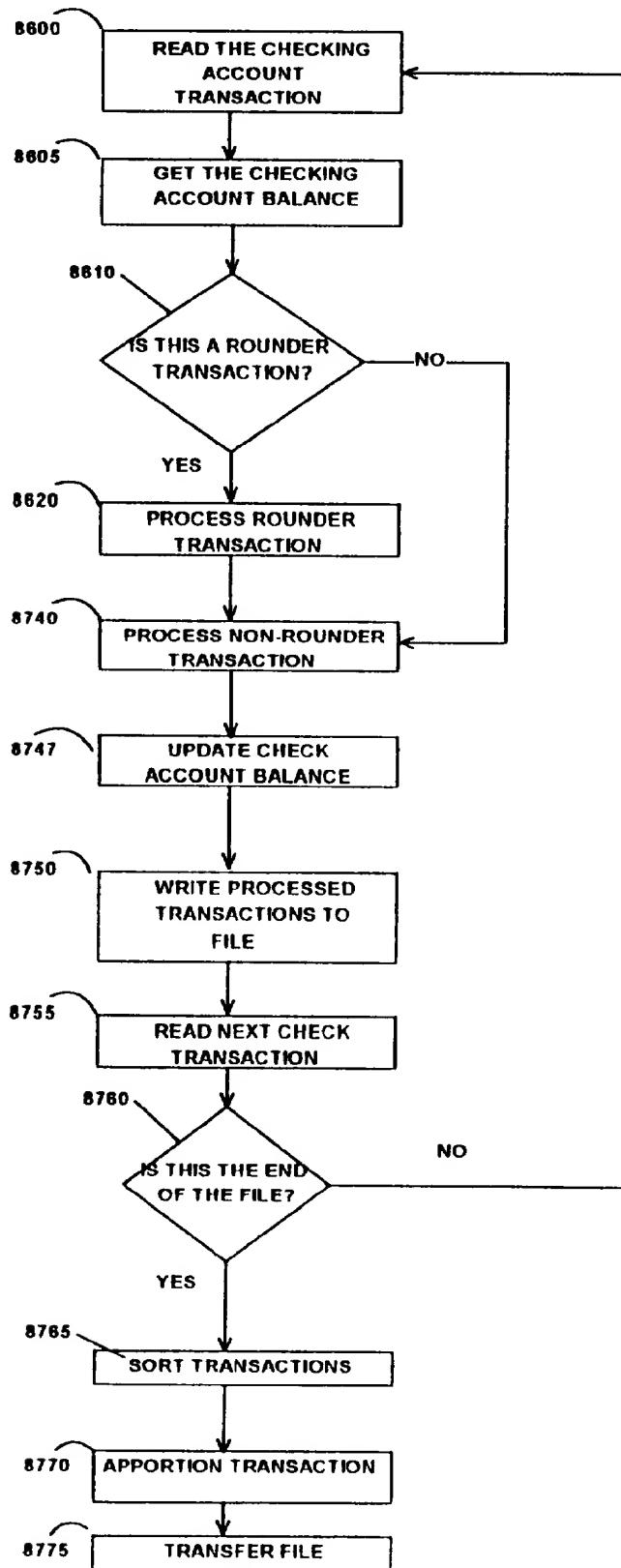
FIG. 8.8

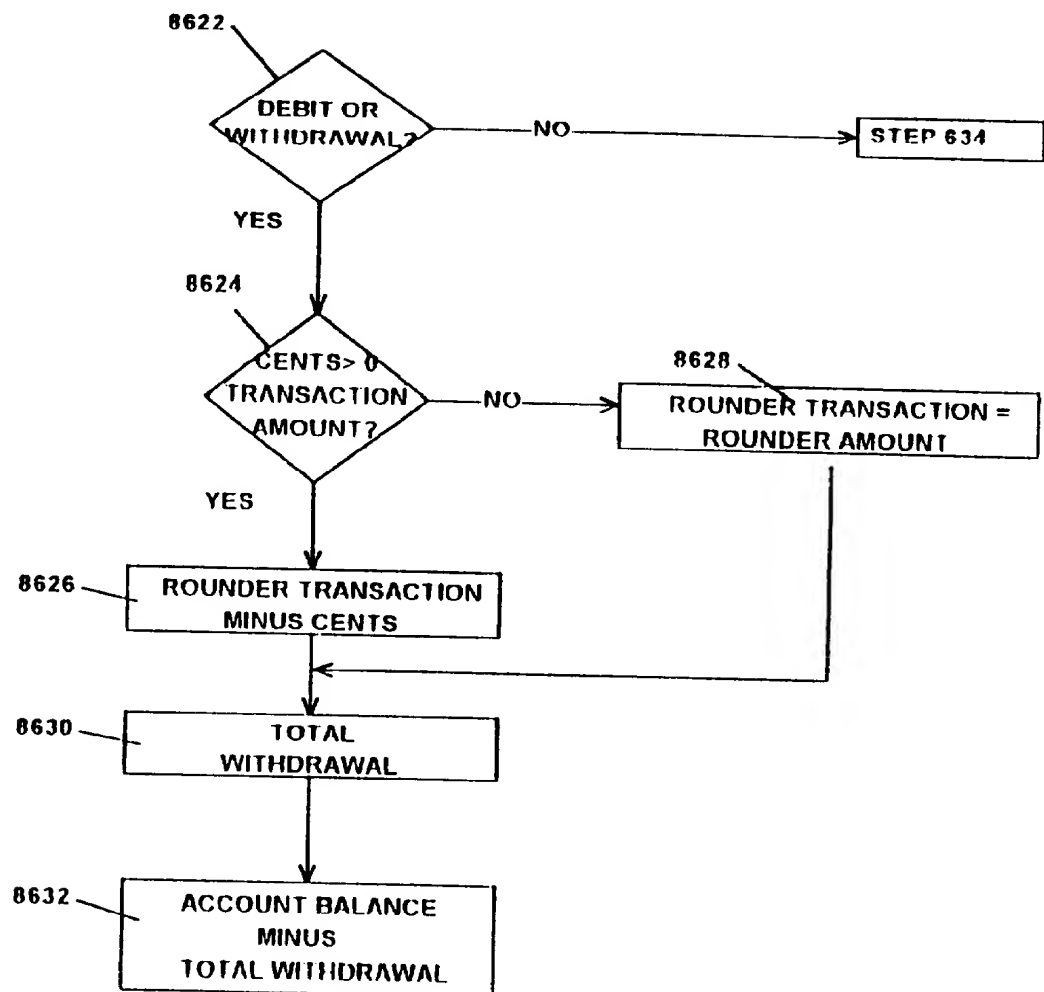


RECTIFIED SHEET (RULE 91)

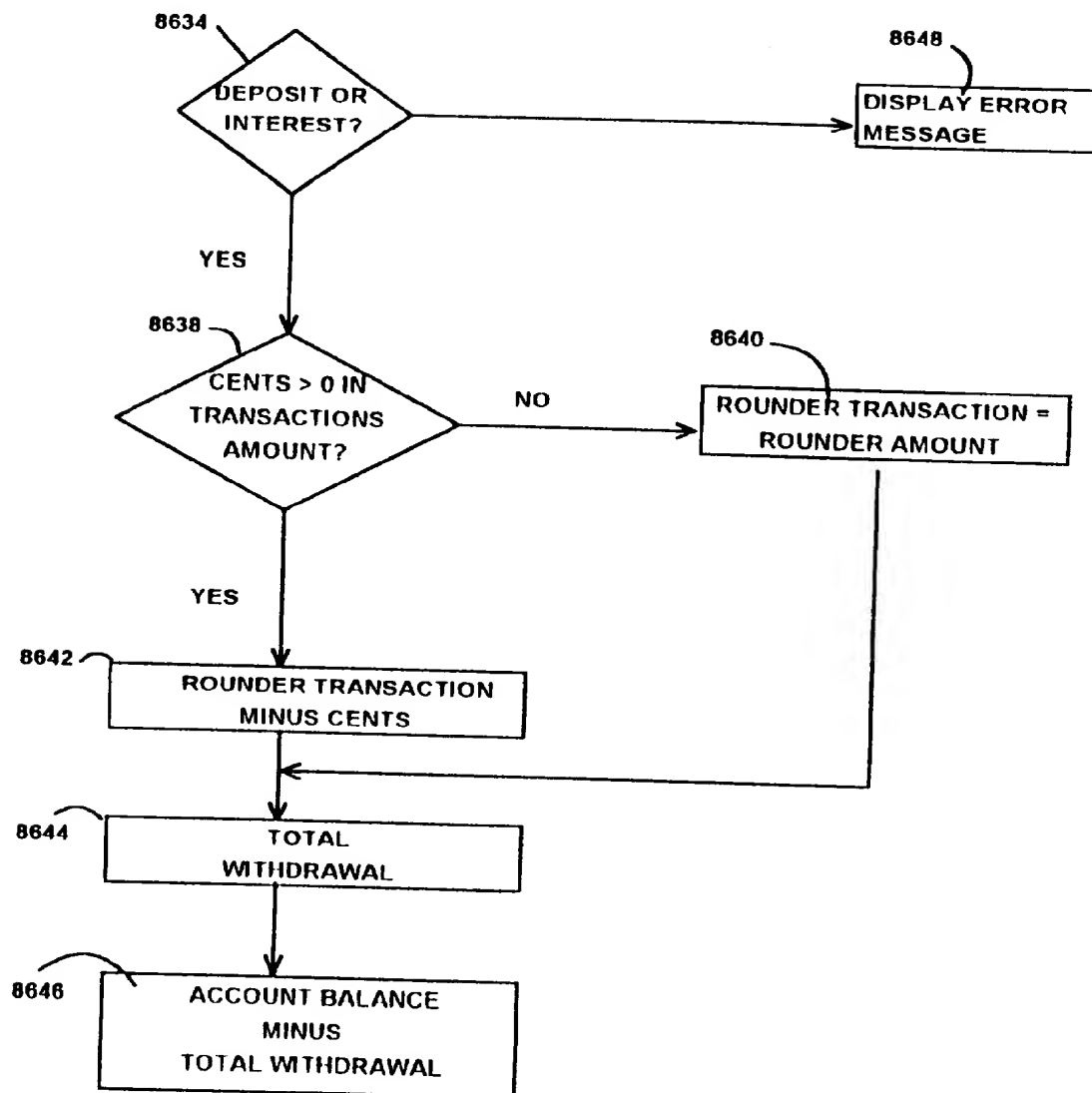
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Fig. 8.9A



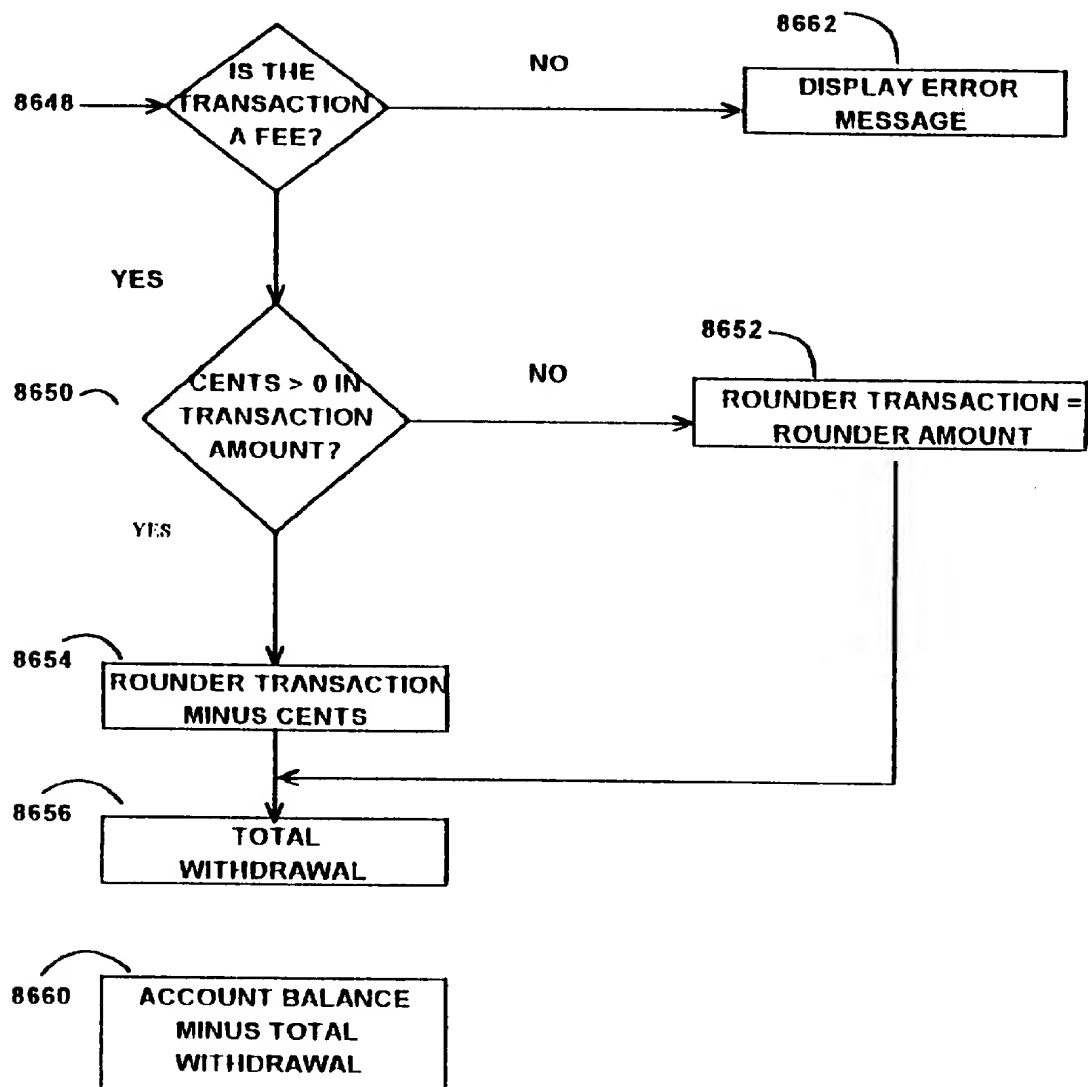
38/46  
FIG. 8.9B

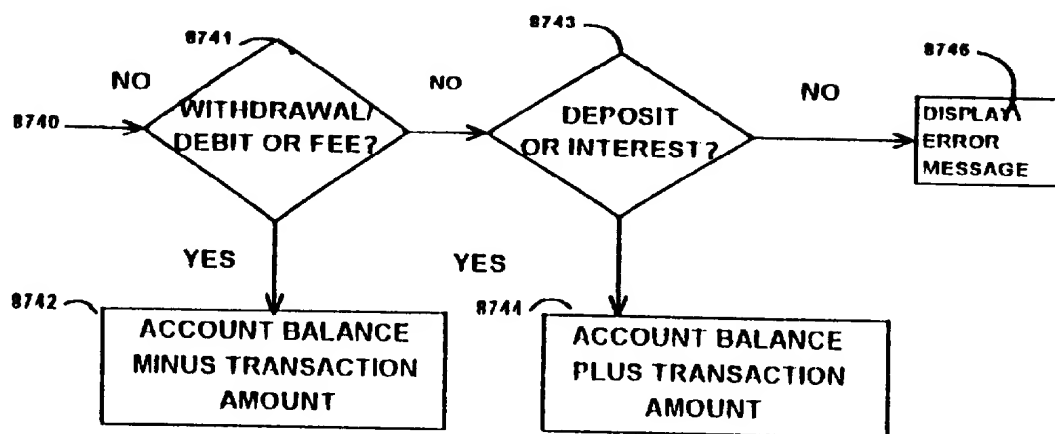


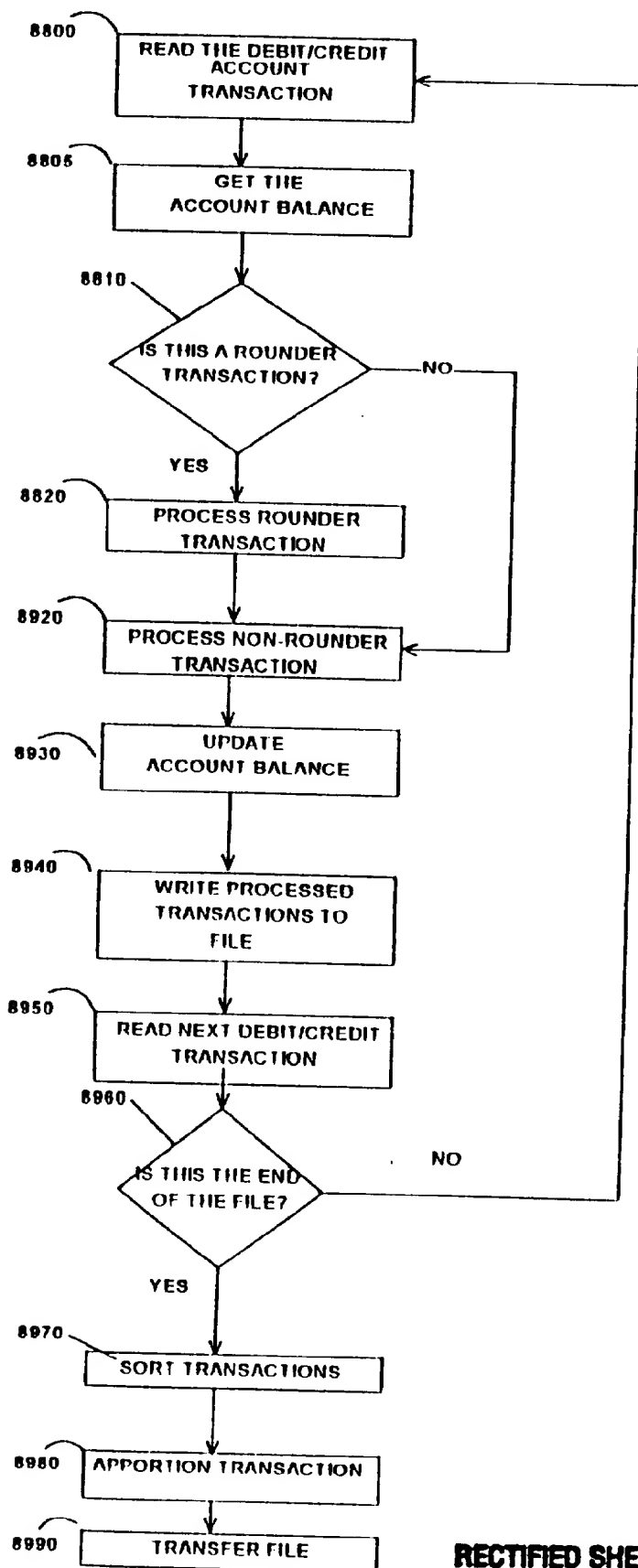
39/46  
FIG. 8.9C

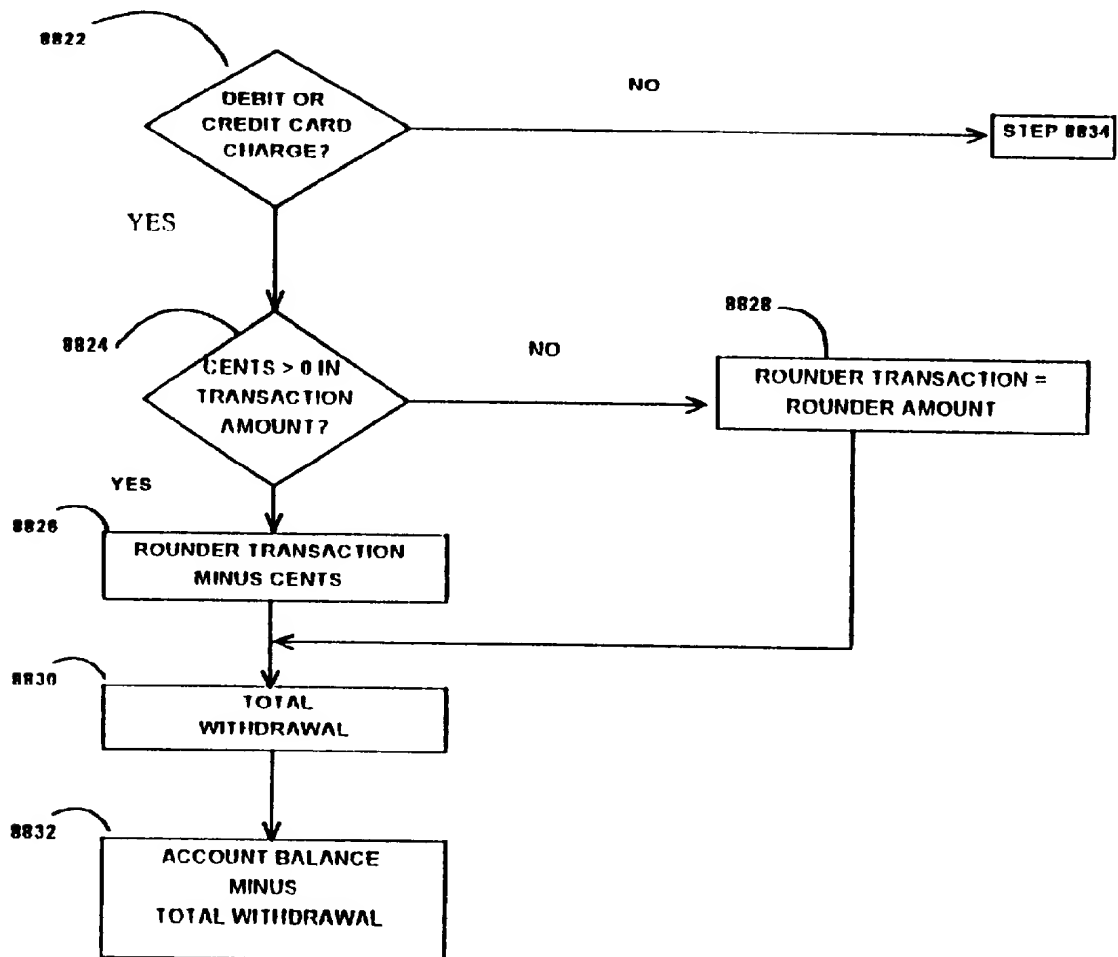
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FIG. 8.9D



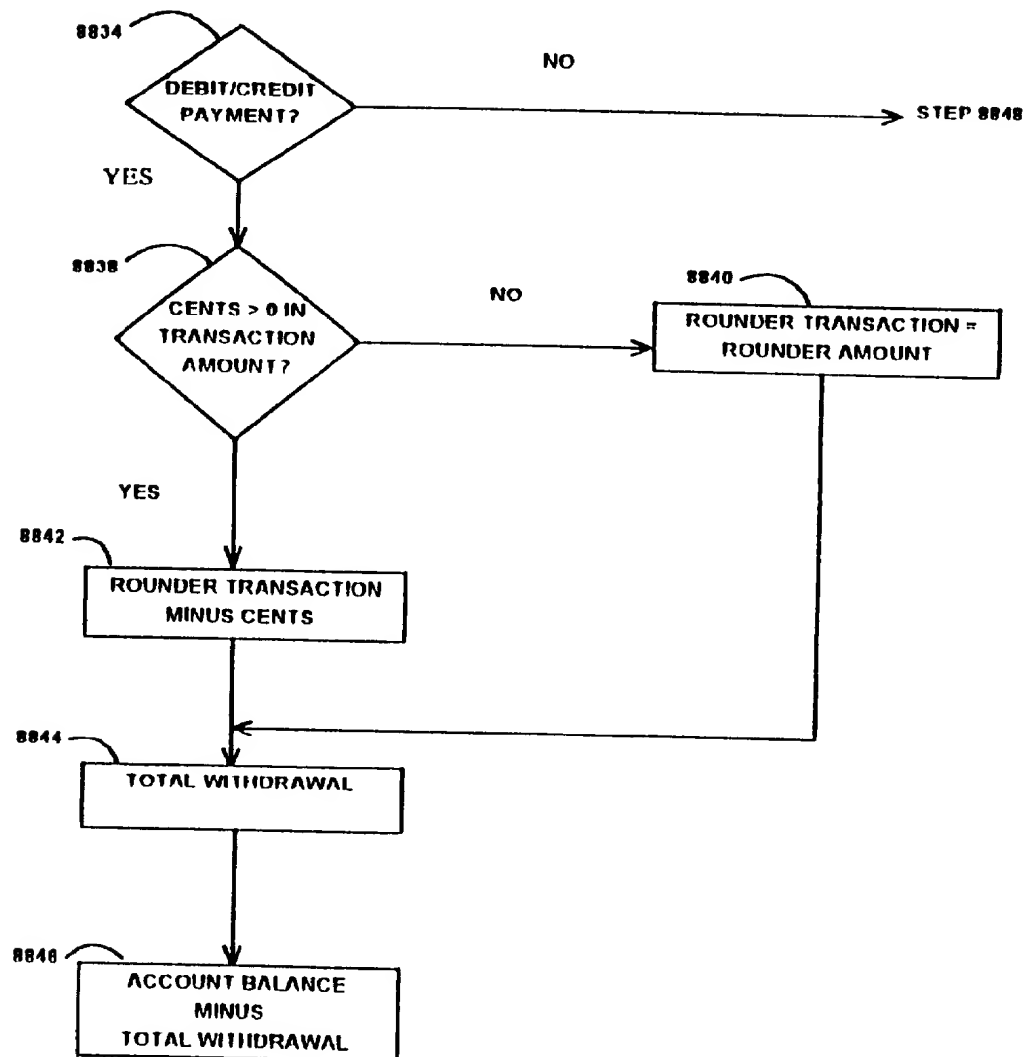
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FIG. 8.9E

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Fig. 8.10A

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FIG. 8.10B

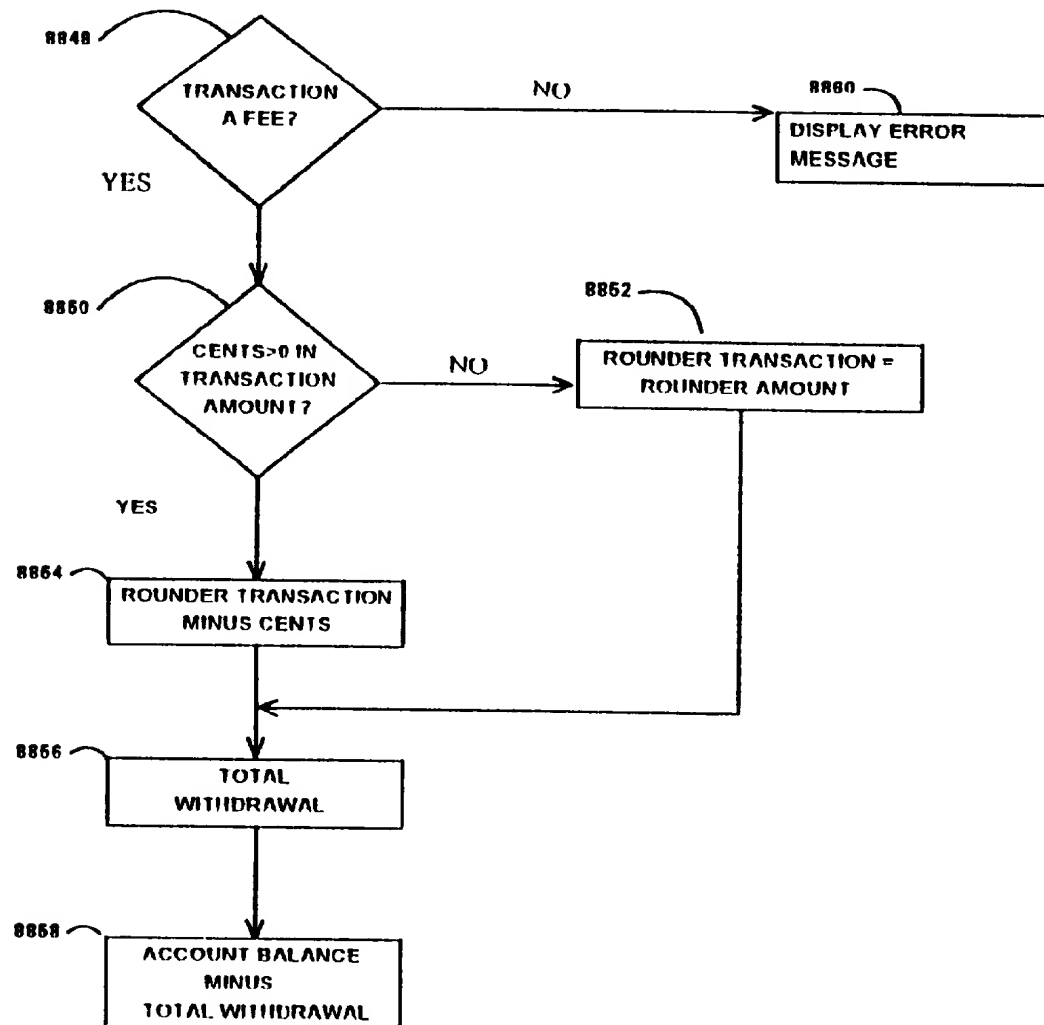
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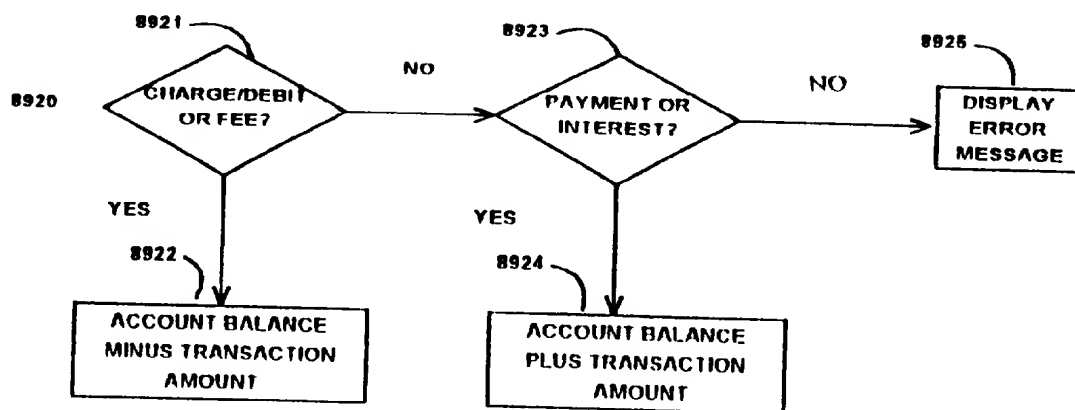
FIG. 8.10C



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FIG. 8.10D



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FIG. 8.10E



## INTERNATIONAL SEARCH REPORT

International application No.  
PCT/US96/06055

**A. CLASSIFICATION OF SUBJECT MATTER**

IPC(6) :G06F 157:00

US CL :364/401R

According to International Patent Classification (IPC) or to both national classification and IPC

**B. FIELDS SEARCHED**

Minimum documentation searched (classification system followed by classification symbols)

U.S. : 364/401R

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US, A, 5,220,501 (LAWLOR ET AL) 15 JUNE 1993, see entire document, figures 1, 1a in particular.	15-45
Y	US, A, 4,823,264 (DEMING) 18 APRIL 1989, see entire document.	15-45
Y	US, A, 5,287,268 (MCCARTHY) 15 FEBRUARY 1994, see figure and column 6, lines 18-54. Note the disbursement of and distribution of payment may include debits/credits to any third party per coupons, rebates, discounts, and other related third party interests. Thus an organization for which a coupon represents is an arbitrary type designation.	15-45



Further documents are listed in the continuation of Box C.



See patent family annex.

* Special categories of cited documents:	"T"	later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
"A" document defining the general state of the art which is not considered to be part of particular relevance	"X"	document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
"E" earlier document published on or after the international filing date	"Y"	document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
"I" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)	"&"	document member of the same patent family
"O" document referring to an oral disclosure, use, exhibition or other means		
"P" document published prior to the international filing date but later than the priority date claimed		

Date of the actual completion of the international search

02 JULY 1996

Date of mailing of the international search report

04 SEP 1996

Name and mailing address of the ISA/US  
Commissioner of Patents and Trademarks  
Box PCT  
Washington, D.C. 20231

Facsimile No. (703) 305-3230

Authorized officer

DONALD MCELHENY, JR.

Telephone No. (703) 305-3800

# INTERNATIONAL SEARCH REPORT

International application No.  
PCT/US96/06055

## Box I Observations where certain claims were found unsearchable (Continuation of item 1 of first sheet)

This international report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☒ Claims Nos.: 1-14  
because they relate to subject matter not required to be searched by this Authority, namely:  
  
PCT Rule 39.1, items (iii), schemes, rules or methods of doing business, performing purely mental acts or playing games, and/or (V) mere presentations of information.
2. ☐ Claims Nos.:  
because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically:
3. ☐ Claims Nos.:  
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

## Box II Observations where unity of invention is lacking (Continuation of item 2 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

1. ☐ As all required additional search fees were timely paid by the applicant, this international search report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.  
☐ No protest accompanied the payment of additional search fees.